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The Development of The Law of Criminal Abortion*†‡

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I. INTRODUCTION

In the present age of extraordinary scientific advancement, strained economic conditions, post-bellum reduction in population, and a marked limitation on immigration, it is common knowledge that among native born Americans the birth rate "commonly exceeds but little the death rate."[1] In this condition we may well heed the warning sounded by Whittaker when he says, "Rome fell not because of the plagues, not because of the Goths and Vandals, but because of the failure in the crop of Roman children."[2]

Newsholme holds, that although forecasts as to population are unworthy, if the present policy of restricting the size of families becomes universal in Western Communities, our present civilization may eventually be replaced by that of the Chinese or Eastern Races.[1]

Among the important causes of the declining birth rate, abortion, and particularly criminal abortion, holds first place. The number of abortions performed annually in this country is appalling when it is estimated that "about a million abortions are brought about every year in the United States; exact statistics are not and never will be available."[3]

Philbrick states that one-third of all pregnancies end in criminal abortion.[4]

Nammack decries the widespread practice of abortion and states that, inasmuch as homicide is sometimes justifiable, so are there circumstances which not only justify, but imperatively command, induction of abortion by the conscientious physician. These circumstances are well established and are generally easily demonstrable. But their occurrence is rare in comparison with the vast number of cases in which child-bearing is deliberately evaded for social or economic reasons in this country, as well as in other parts of the world, with a resulting decline of the birth rate. It is a question which should give legislators, citizens, the clergy, and

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‡ Presented before the Harlem Medical Assn., April 23, 1929.

medical men grave concern. The average number of children to each marriage has declined from 4.5 at the close of the 18th century to 2 at the end of the 19th century.[5]

II. General Considerations

Abortion [(L. *aboriri;* to fail to be born).[6] (The expulsion of the fetus before it is viable, i. e., capable of living outside of the uterus)[7].] is widespread among all nations and people; it has invaded all ranks and classes of society from the highest to the lowest. It is not confined to the criminal classes alone, but has penetrated the most exclusive abodes of luxury, splendor and fashion and has even been admitted to the homes of those active in church and religious work and supposedly surrounded by a halo of sanctity.[8]

In order to obtain some understanding of this subject a brief discussion is imperative.

The term "abortion" in obstetrics signifies to the medical man the premature separation and emptying of the uterus of the products of conception from any cause whatsoever in the first three months of pregnancy.[9]

According to the causes of abortion, they are classified as (1) spontaneous or (2) induced; and the class of induced abortions must again be divided into those induced (a) legally for medical reasons and those induced (b) for criminal purposes. The object of the law is to isolate the cases of abortion induced for criminal purposes and we can therefore forego a detailed discussion of the spontaneous cases.

Among the conditions for which abortions may be induced legally for medical reasons are serious kidney disease (eclampsia), deformed pelvis, serious heart disease, tuberculosis, mental diseases, insanity following previous pregnancies (puerperal insanity), death of the fetus, disturbances in the membranes, etc.[9]

The modes of procuring criminal abortions are grouped under three general classes, viz.:

1. The Administration of Drugs.
2. General Violence.
3. Local Violence.[10]

Of these the first is the most favorite method of attempting the crime, but the last method is the one most frequently the subject of criminal inquiry, owing to the fact that it is most likely to be followed by the death of the woman. Brend gives an interesting analysis of 318 cases of death from abortion over a period of years from 1913-1921; in 58 cases, drugs were used; in 193 cases operations were performed; while in 67 cases the cause of death was other than by the use of drugs or the performance of an operation.[10]

To the legal mind the adjective "criminal" before abortion, is usually assumed, and it means an interference with the course of the pregnancy, whether the uterus be emptied or not with the intent of destroying the product of conception[11], and whether "the attempt proves successful or fails."[9]

It is common terminology to call premature labor of an accidental type a "miscarriage" in order to distinguish "abortion" as a deliberately induced act whether as a medical necessity by the accoucheur, or as a criminal proceeding; otherwise, the term "abortion" should be used when occurring during the first three months of pregnancy, "miscarriage" during the next three months and "premature birth" during the last three months.

Taking drugs for the purpose of procuring abortion is widespread. Local customs and belief frequently enter into the selection of the drug. The sale of abortifacients is quite large, but of recent years has been conducted more surreptitiously than formerly. The following are the drugs most frequently used; lead, purges (colocynth), irritants (cantharides, arsenic), emetics such as tartar emetic, emmenagogues (ergot, rue, savine, tansy, yew, parsley), etc. These succeed only by causing severe constitutional disturbances. In spite of the uncertainty of their use, the public has great faith in their efficiency and a woman will most often resort to drugs before resorting to more drastic measures.[10]

General violence as a causative factor in producing abortion is uncertain in its effects. Some women, if of a highly nervous temperament, abort in consequence of a very slight shock[12] such as a stumble on the stairs; others may suffer the most extreme violence without interruption of pregnancy. During the early months a woman may endeavor to attain her object, without exciting suspicion, by excessive exercises such as dancing or playing tennis to the point of exhaustion. Others have thrown themselves downstairs or jumped from a height. Many instances of fractured ribs or even fractured legs have occurred without producing an abortion.[10]

In the use of local violence, sharp foreign bodies are introduced into the birth canal with the object of passing them into the womb. Various articles such as hair pins, knitting needles, pencils, catheters, and uterine sounds[13] are employed. When the instrument is used by the woman herself or by a person ignorant of the anatomy of the parts, fatal injury may be caused often without the desired effect on the pregnancy.[14]

Violence may also be applied externally to the abdomen. Cases are comparatively rare.[15]

An analysis of 200 cases shows that two-thirds of the criminal abortions were brought about by the use of instruments and the remaining one-third by various other methods.[16]

III. Early History

No trace of abortion as a crime is found in the works of ancient common law writers[17] but references to abortion and infanticide may be traced back to the time of primitive man.

The earliest references to birth control are noted in Genesis when God commanded Adam and Eve in the Garden of Eden to be fruitful and multiply.[18] Jacob at a later time was informed that "his offspring would be as numerous as the sands of the sea." When Moses gave the Jews the Ten Commandments he impressed upon their hearts the command, "Thou shalt not kill."[19]

The Jews, while continuing steadfast and faithful in their own religion, were free from these crimes. Indeed abortion and infanticide were not forbidden, because unknown among them.[20, 21]

Infanticide arose out of man's physical necessities. The need of the child, primarily, and the difficulty in rearing it, secondarily, determined for and against its right to live. Among primitive people fighting men constituted the supreme need. All superfluous members of a family or clan were a serious handicap. Hence, female infanticide arose. Through the usefulness of women in varied industries of the agricultural stage, the female child won recognition of its right to live. Even in more modern times the Chinese often murdered their female children because of economic conditions.[22]

The innocent victims among some nations were sacrificed to their gods in barbarous religious ceremonies,[23] while among others their destruction was required by law if, upon examination, they were found to be weak or deformed;[24] and among others, the custom was encouraged lest the population should increase too rapidly.[25] This practice was not upheld merely by sanction of law; it was defended by the ablest men in Greece. Aristotle, in his work on government, enjoins the exposure of children that are naturally feeble and deformed in order to prevent an excess in population. He adds, "If this idea be repugnant to the character of

the nation, fix at least the number of children in each family, and if the parents transgress the law, let it be ordained that the mother shall destroy the fruit of her body before it shall have received the principles of life and sensation."[26] The law of the Twelve Tables, enacted in the 301st year of Rome, also sanctioned the barbarous practice of destroying all children that were deformed.[27]

Knowledge of the ancients was quite vague as to when the child became viable. Beck goes into this in detail.[28]

"The ancients believed that the 'sentiment' and vital principle were not infused into the foetus until some time after conception had taken place." "According to *Hippocrates*, the male foetus became animated at 32 days after conception; while the female required 42." "The *Stoics* believed that the soul was not united to the body before the act of respiration, and consequently, that the foetus was inanimate during the whole period of utero-gestation." "This doctrine prevailed until the reign of Antoninus and Severus, when it gave way to the popular sentiments of the *Sect* of the Academy, who maintained that the foetus became animated at a certain period of gestation." This erroneous idea crept into the Canon Law of the Church of Rome which also distinguished between the "animate and inanimate foetus" in its punishment for its destruction. "*Galen* considered the animation of the foetus to take place on the 40th day after conception." "Another contended that 80 days were requisite for the animation of the female while only 40 were necessary for the male." "Others again made a distinction between the imperfect embryo and the perfectly formed foetus, and considered abortion of the latter only, as a crime deserving the same punishment as homicide."

In times more modern an error not less absurd, and attended with consequences equally injurious, has received the sanction not merely of popular belief but even of the laws of many civilized countries. The error consists in denying to the fetus any vitality until after the time of quickening. The codes of almost every civilized nation have this principle incorporated in them and accordingly the punishment which they pronounce against abortion procured after quickening is much severer than before.[29]

Among all the nations of antiquity there prevailed to a greater or lesser degree the customs of exposing new born children, or putting to death not only the new born but even older children. Sometimes they were strangled, sometimes immolated, sometimes drowned or buried alive and sometimes thrown to wild beasts or voracious reptiles.[8] An interesting contrast is noted in the treatment of children by the Ancient Germans. The Germans considered children as free human beings and to destroy them was infamous.[31]

But to the pure Jewish religion as well as to real Christianity, infanticide after as well as before birth was abhorrent.[21] The Koran also forbids the killing of new-born children.[32]

The history of Rome abounds with reference to induced abortions. The Romans believed that the foetus was a mere excrescence of the mother, a simple appendage, from which she could free herself as innocently as she might be rid of a troublesome disorder. Consequently, induced abortion became so common in Rome that greedy quacks who flocked to Rome from all sources could barely supply the demand for their services and nostrums. More particularly did the evil prevail, as in our own day, among the well-to-do, the so-called respectable class.[21]

Juvenal described that nefarious practice as follows:

"Yet these tho poor, the pain of childbed bear,
And without nurses, their own infants rear.
You seldom hear of the rich mantel spread
For the babe born in the great lady's bed.
Such is the power of herbs; such arts they use
To make them barren or their fruit to lose." (33).

Le Prohon[34] throws some interesting light upon the social and moral phase of this subject in the last days of the Roman Empire. There was inequality of social rank amongst the Roman ladies, and immense wealth in the upper circles with ridicule and contempt for the virtuous of their own sex. The high cultivation of intellect among the Roman ladies made them capable of the greatest evil as well as the highest good. Having an imperfect code of morals which could not reach the heart, everything around them led them to corruption. It can truly be said that vice had no bounds in those days. One author writes that the desire for public amusements made the eyes and hearts of the women yearn for all kinds of debauchery. Women, oftentimes, lavished all their gold for the mere pleasure of being the hostess of a popular actor. It is stated on the authority of a Roman writer, Valerius Maximus, that a flute player swallowed up whole patrimonies, beside giving offspring to the illustrious houses of Scipio and Emilius. This period, to be sure, was associated with many vile acts against the law of nature, and abortion was practiced by ladies in the higher walks of life with as great a degree of perfection as it is in our own day. At the same time that the crumbling of the Empire was brought on by the moral degradation of its women, a new religion appeared—Christianity.[34]

The laws of the Romans and Greeks were based upon the political welfare of society. The new religion, Christianity, inspired its followers with contempt for the pleasures of this world; it raised the heart and soul above everything terrestial, and it created amongst the Roman ladies a realization of an unknown perfection.

The transition from Pagan Rome to Christian Rome occurred with much effort and after a struggle of much violence. By a compromise it was agreed to consider the foetus endued with life from the date of the maternal sensation called "quickening." Abortions after quickening were branded a serious crime, but those caused before this period were suffered to pass unnoticed. Hence the word "quick" became an evil omen.[34]

Tertullian, in his Apology, says, "Christians are so far from homicide that with them, it is utterly unlawful to make away with a child in the womb when nature is in deliberation of the man; for to kill a child before it is born, is to commit murder by the way of advance; and there is no difference whether you destroy a child in its formation or after it is formed and delivered; for we Christians look upon him as a man who is one in embryo; for he is a being like the fruit in blossom and in a little time would have been a perfect man, had nature met with no disturbance."[35]

And wherever Christianity has been introduced among modern heathen nations, infanticide has at once ceased to prevail, and has been forbidden under severe penalties.

Abortion, too, has been, and is to be held a crime of equal enormity among all persons who have really learned and accepted the principles of the Christian religion.

But notwithstanding that the custom of exposing or killing children after birth for any cause is now considered in every place under the sway of Christianity as murder, the most heinous, yet there still remains a shadow of false philosophy and the ignorance of the laws of life such as prevailed among the ancients.

Many a nominally Christian home is desecrated by

child murder, by abortion procured in the early months of pregnancy. Many a Christian mother who would be horrified by even the thought of strangling the babe upon her breast and would refuse to produce a miscarriage upon herself after the fifth month of pregnancy, nevertheless, readily consents to an abortion being produced before the fourth month.

IV. Recent History

In England, during the reign of Edward I, the Latin work called "Fleta" (estimated to have been written about A. D. 1290) shows the law at that time to have been as follows:

"Moreover, who shall have overlain a pregnant woman, or who shall have given her drugs or blows, in such a sort as to procure abortion, or non-conception before the fetus shall have been already formed and endowed with life, is, by law, a homicide: And in like manner, whoever shall have given or taken drugs to the intent that no generation or conception may take place:——." It is to be observed that Fleta states that the destruction of the child is not only a felony but homicide. The offence apparently was not against the mother but against the child.[29]

The development of the law in England can best be studied by reading the English statutes: 43 Geo. III, ch. 58; 9 Geo. IV, ch. 31, Lord Lansdowne's Act; 7 Will. IV and 1 Vict., ch. 85; and 24 and 25 Vict., ch. 100.[37] These statutes, as noted below, will bear careful examination.

The procuring of an abortion on a woman after "quickening" was a common law misdemeanor although neither mother nor child perished. If it were procured upon the woman before "quickening," the offender could be convicted of assault and battery upon the woman, although if the abortion were procured with the consent of the woman before the child had quickened, it was not an indictable offense at common law for the reason that the child was not then supposed to be endued with life.[36]

The first section of 43 Geo. III, ch. 58, known as Lord Ellenborough's Act, which indicates the absence of any previous adequate means to punish any one attempting a miscarriage, provides that if any person or persons "shall wilfully, maliciously and unlawfully administer to, or cause to be administered to or taken by any of his Majesty's subjects, any deadly poison, or other noxious and destructive substance or thing, with intent such of his Majesty's subjects thereby to murder, or thereby to cause and procure the miscarriage of any woman, then being quick with child, shall be guilty of a felony and shall suffer death without benefit of clergy."

In the second section, if an abortion is attempted when the woman is not "quick," the punishment is less severe and does not call for the imposition of a death penalty.

To emphasize the importance in the changes of the law, a perusal of a precedent in Chitty's Crim. Law[38] indicates that until the woman is quick with a child, if she consents, no indictable offense is committed.

The law, which was subsequently reenacted and known as Lord Landsdowne's Act, follows:

9 Geo. IV, ch. 31 (Lord Landsdowne's Act) provides:

XIII. That, if any person, with intent to procure the miscarriage of any woman then being quick with child, unlawfully and maliciously shall administer to her, or cause to be taken by her, any poison or other noxious thing, or shall use any instrument or other means whatever with the like intent; every such offender, and every person counselling, aiding or abetting such offender, shall be guilty of felony; and, being convicted thereof, shall suffer death as a felon; and if any person, with intent to procure a miscarriage of any woman not being or not proved to be, then quick with child, unlawfully and maliciously shall administer to her, or cause to be taken by her, any medicine or other thing, or shall use any instrument or other means whatever, with the like intent; every such offender, and every person counselling, aiding or abetting such offender, shall be guilty of felony, and being convicted thereof, shall be liable, at the discretion of the court, to be transported beyond the seas for any term not exceeding fourteen years, not less than seven years, or to be imprisoned, with or without hard labor, in the common jail or house of correction, for any term not exceeding three years, and if a male, to be once, twice or thrice publicly or privately whipped, (if the court shall so think fit) in addition to such imprisonment.

The absurd distinction between "quick" and "not quick" is done away in St. 7 Will. IV & 1 Vict. ch. 85, which enacts:

VI. Whosoever, with intent to procure the miscarriage of any woman, shall unlawfully administer to her, or cause to be taken by her, any poison or other noxious thing, or shall unlawfully use any instrument or other means whatsoever with the like intent, shall be guilty of felony, and being convicted thereof, shall be liable, at the discretion of the court, to be transported beyond the seas for the term of his or her natural life, or for any term not less than fifteen years, or to be imprisoned for any term not exceeding three years.[39]

St. 24 and 25 Vict. Ch. 100, enacts:

LVIII. Every woman, being with child, who, with intent to procure her own miscarriage, shall unlawfully administer to herself any poison or other noxious thing, or shall unlawfully use any instrument or other means whatsoever with the like intent,—and whosoever, with the intent to precure the miscarriage of any woman whether she be or be not with child, shall unlawfully administer to her or cause to be taken by her, any poison or other noxious thing, or shall unlawfully use any instrument or other means whatsoever with the like intent —shall be guilty of felony, and being convicted thereof shall be liable at the discretion of the court, to be kept in penal servitude for life or for any term not less than three years—or to be imprisoned for any term not exceeding two years, with or without hard labor and with or without solitary confinement.

LIX. Whosoever shall unlawfully supply or procure any poison or other noxious thing or any instrument or thing whatsoever, knowing that the same is intended to be unlawfully used or employed with intent to procure the miscarriage of any woman, whether she be or be not with child, shall be guilty of a misdemeanor, and being convicted thereof, shall be liable, at the discretion of the court, to be kept in penal servitude for the term of three years, or to be imprisoned for any term not exceeding two years with or without hard labor.

The French, German and Austrian Laws are similar.[40]

An analysis of these paragraphs discloses that the penalty became less severe and included punishment for attempts to procure a miscarriage whether the woman were pregnant or not.

In passing, it is of interest to note some of the questions of considerable nicety which arose in old cases, as to whether the death took place after the child was actually born or while in the process of being born.

Where, on the trial of an indictment alleging that the prisoner was delivered of the child and that it was afterward strangled by her and it had breathed, but the medical men could not say whether it had breathed during the birth or afterwards—the court said to the jury: "The being born must mean that the whole body is brought into the world; and it is not sufficient that the child

respires in the progress of the birth."[41]

In another case where upon trial, the indictment containing a count for murder by stabbing and a court charging that, before the child was completely born, the prisoner stabbed it with a fork, and that it was born, and then died of the stab, it was proved that a puncture was found on the child's skull; but when the injury was inflicted did not appear, and some questions were asked as to whether the child had breathed, whereupon the court said: "The child might breathe before it was born; but in having breathed is not sufficiently life to make the child, murder. There must have been an independent circulation in the child, or the child cannot be considered as alive for this purpose."[42]

The early law of abortions in Japan and Turkey is worthy of mention.

In Turkey during the time of harems, abortion was frequently practiced when the population of the harem threatened to become too numerous.[43]

In Japan, the priests were often charged with committing abortions. It was considered a serious offense.[44]

Although child-murder was unknown among the American Indians, the practice of abortion was not uncommon.[45]

The early law in many of the United States followed the English law in existence at the time that the colonies were settled.

The more recent law in a number of the states as analyzed follows:

In Ohio a statute enacts, "That any physician or other person who shall wilfully administer to any pregnant woman any medicine, drug substance, or thing whatever, with intent thereby to procure the miscarriage of any such woman, unless the same shall have been necessary to preserve the life of such woman, or shall have been advised by two physicians to be necessary for that purpose, shall, upon conviction be punished, etc." It was decided that the offense could be committed at any time during pregnancy.[46] An attempt to procure a miscarriage is no crime.[47]

In a case decided in 1859 in Vermont, it was held unimportant as to whether the foetus was alive when the attempt was made to procure the miscarriage.[48] The present Vermont law makes it unimportant whether the woman be pregnant so long as she is supposed to be pregnant.[49] Pennsylvania[5] has a similar statute.

A Massachusetts case based upon the Statute of 1845, ch. 27,[20] holds that the period of gestation is not important in considering the enormity of the crime and that it was not important if the pregnancy had or had not reached the stage of "quickening."

The statutory laws of New York laid equal stress on the term "quick," making it the basis of distinction between the degrees of guilt of the crime of abortion. The Revised Statutes as long ago as 1830, provided that, "the wilful killing of an unborn quick child, by any injury to the mother of such child which would be murder if it resulted in the death of such mother shall be deemed manslaughter in the first degree."[51]

"Quick with child" is defined in *Evans v. People*, 48, N. Y., 86, following *Rex v. Wycherly*, 8C, & P., 262, as the period beginning with conception but is "pregnant with quick child" only when the child has become "quickened in the womb."

In New York, the present statute reads as follows[52]:

Sec. 80. A person who with intent thereby to procure the miscarriage of a woman, unless the same is necessary to preserve the life of the woman, or of the child with which she is pregnant, either:

1. Prescribes, supplies or administers to a woman, whether pregnant or not, or advises or causes a woman to take any medicine, drug or substance; or

2. Uses or causes to be used any instrument or other means,

Is guilty of abortion and is punishable by imprisonment in a state prison for not more than four years, or in a county jail for not more than a year.

Sec. 81. A pregnant woman, who takes any medicine, drug or substance or uses or submits to use any instrument or other means with intent thereby to produce her own miscarriage, unless the same is necessary to preserve her life, or that of the child whereof she is pregnant, is punishable by imprisonment for not less than one year nor more than four years.

Sec. 82. A person who manufactures, gives or sells an instrument, a medicine or drug, or any other subtance, with intent that the same may be unlawfully used in procuring the miscarriage of a woman, is guilty of a felony.

According to the law of France, proof of pregnancy is not essential.[53]

The law prohibits not only abortion when performed without legal justification, but also the attempt to abort when not legally necessary.[54]

In New York, the courts hold that pregnancy is not a material element of the crime of abortion.[55] This is also noted in *People v. Conrad* (1905) 92. N. Y. S. P. 606.

606: "The prosecution gave evidence to the effect that the defendant agreed for hire to perform an abortion on a pregnant woman; that he appeared at the time and place appointed, bearing surgical instruments, by which an abortion could be accomplished——." The facts in the case show that the female was not pregnant nor is there anything to indicate that the defendant had examined her prior to preparing for the abortion.

Mere giving of advice without having been acted upon does not constitute the crime.[56]

Summary

The origin of the laws making abortion a crime has long been a source of debate. Among primitive races it was practiced as an economic necessity. Early writers referring to the Greeks and Romans mention the occurrence of this practice, but although incurring disfavor it was allowed without punishment. Ovid (*Amor*, lib. ii), Juvenal (Sat. VI, 594) and Seneca (Consol ad Hel. 16) note the frequency of the offense and do not state any laws calling for its punishment. Galen and Cicero (*pro Cluentio*), also Stobaeus (Serm. 73), are referred to as authorities for the existence of a penalty for the production of abortion.[57]

The religions of the Jews, Christians and Mohamedans were important influences in markedly diminishing the number of abortions, while the conversion of Rome to Christianity brought with it the death penalty.

In England the earliest records indicate a difference in the penalty before "quickening" (i. e. movements of the foetus of which the mother becomes conscious and which occur at about four and half months of pregnancy; it is also at this time that the foetal heart sounds can be elicited) and after "quickening." The procuring of an abortion after "quickening" was a misdemeanor while before "quickening" it was assault and battery; but if the mother consented it was not an indictable offense at Common Law. The absurd distinction between the foregoing periods of "quickening" was later corrected (St. 7 Will IV and 1 Vict., ch. 85).

An analysis of the present law shows that the penalty is less severe and includes punishment for attempts to procure an abortion whether the woman is pregnant or not. The French, Germans and Austrian laws are similar.

The law in the United States varies in different states. The New York statutes follow the English law closely. In other states, there still exists the difference in penalty for committing the crime before and after "quickening," although modern science teaches that both periods are fraught with equal dangers and oftentimes terminate fatally.

Discussion

Thomas P. Peters, Esq.—Dr. Burk was kind enough to send his paper to me and let me read it some days ago, and I told him it was a pretty long article, and I really did not expect him to get through with it much before 10:30, so that I did not expect there would be any time for anybody to discuss the subject after the reading of his article. It is a very scholarly article, and it very completely covers the subject. I do not know whether you are mostly physicians here. It looks as though some of the members were rather young to be practising as doctors, but possibly you are all doctors, so I might say this as a matter of advice to physicians, in attempted abortion the woman upon whom the abortion is performed is not an accomplice of the doctor, and therefore, gentlemen of the medical profession, if you do perform an abortion on a woman, she may testify against you in court, and you may be convicted on her testimony alone. Dr. Burk has already referred to the section as it exists in the present law. Section 80 defines a crime committed by the physician, or the midwife, or any other person who undertakes it, and Section 81 defines a crime by the woman who submits to the operation or the use of drugs, and the Court of Appeals so firmly establishes this law against abortions that they have decided that each is an entirely different crime, and therefore the woman is not an accomplice of the doctor, nor is the doctor the accomplice of the woman, and therefore each may testify against the other without its being necessary for the prosecuting attorney to furnish any additional proof. Ordinarily no person can be convicted of a crime on the testimony of an accomplice alone; it matters not whether there be one accomplice, or five or six, there must be additional evidence in order to convict any person on the testimony of an accomplice, with the exception of this crime, and one or two others, and it is because the Court of Appeals has held these to be two entirely different crimes although done at one transaction and at the same time. I do not know whether you people know anything about Margaret Sanger or not, but she was the lady that first went over this part of the state proclaiming the right of birth control on the part of the women of the State, and it was my duty as Assistant District Attorney in King's County to prosecute Margaret Sanger some six or eight years ago, and as a result, she was convicted of disseminating this knowledge for the control of births, which is directly against the law of the State of New York.

The doctor has referred to the crime of abortion "without benefit of clergy." I thought it might be interesting if here are some who do not know exactly what that expression means to explain it. I have known some people to have the idea it meant a burial that was not Christian, that they did not have the right to benefit of clergy at their obsequies. That is not what it means. In the days of the Dark Ages nobody could read except the clergy, and a man who was accused of a crime, who asserted he was a member of the clergy or any holy order could establish his right by reading a certain section of the Bible, and if he successfully read the section, they came to the conclusion that he must be a member of a religious order, and he was then, when charged with certain crimes, entitled to "The benefit of clergy", that is not to be tried in the law courts, but to be tried in the ecclesiastical courts, and if a clergyman was guilty of larceny he might have the benefit of clergy, and so would not be prosecuted in the law courts, but the ecclesiastical courts, or the court of his own church, and be punished by the superior of his own order, and under these sections the clergyman who was guilty of abortion could not raise his benefit of clergy, but would be punished in a law court, and not in an ecclesiastical court, and the punishment would be of a different nature in the law court, possibly more severe, and maybe not so severe.

In the State of New York the law is absolutely against abortions, and prosecutions are frequent, but in my experience convictions are seldom obtained. There is a defense that can be easily manufactured and easily set up by the physician or the midwife, and one who has sense enough and who has a lawyer crooked enough to suggest the defense, if he does not think of it himself, is nearly always sure of acquittal. I have prosecuted in these cases many times myself, and I have convicted midwives and I have convicted one physician, but he was a rather hardshell fellow, and I know that they convicted him on the admission more than they convicted him on the evidence brought against him. Two young girls went to him and they testified to the jury that the doctor when they approached him and talked about the matter, said it was a simple little operation; he had just performed one, and he had a package in his hand, which he opened up, and showed them a fetus. They were both young, about 17 years old, and when the doctor got on the stand he admitted that he had shown this fetus to them. That was all the jury needed to convict that man.

There is another peculiar thing about the law of the State which Dr. Burk has called attention to. The law says a crime is committed if you make any effort toward it by the use of instruments or drugs, whether the woman was pregnant or not, and he has read you the decisions on it. I cannot recall the name of the attorney in that case; he represented the Society of Midwives and always defended every midwife who was charged with abortion, just as we had one attorney who always defended all the pickpockets. Some of the criminals in this city band together as business men do and have their own attorney to act for them, so the midwives had their attorney, and the pickpockets had their attorney. This gentleman was tickled to death to get a conviction where there was no proof that the woman was pregnant, because he thought he could then get a reversal of the decision, where no proof was present to show the patient was pregnant, but the Court of Appeals decided directly against him and the statute so reads, and this is one of the times when the Court of Appeals interpreted the statute in the exact words in which the legislature passed it, and in which the legislature meant everybody to believe it. Often when the lawyers get through with a law its own father can hardly recognize it.

With regard to this matter there is a little incidental matter that occurs to me. It was in the reign of James I they had an old English law which put the burden on the mother of a bastard child which was found to be dead a short time after birth to prove that the child was born dead, and unless the woman who was the mother of the illegitimate child could prove that the child was born dead she was punished by the law as though she had destroyed the child after proper birth. That was a severe criminal law. In criminal law the burden is always placed on the prosecution to prove the defendant guilty. This old law ignored that rule.

I have enjoyed Dr. Burk's paper very much. It has been a great pleasure to be here.

Sol Ullman, Esq.:—I have listened to Dr. Burk's most enlightening paper and desire to comment on it from a different viewpoint than that of Professor Peters. As a Deputy Attorney General of the State of New York, it is my function and has been since the enactment of the new Medical Practice Act to prosecute illegal practitioners of medicine in this district, and to appear before the Medical Grievance Committee in the presentation and prosecution of charges preferred against licensed physicians charged with misconduct in the profession. We have had some experience with the offense which is the subject of Dr. Burk's discussion tonight.

Under the old law, before the enactment of the new Medical Practice Act, it was practically impossible to secure the revocation of the physician's license where he had performed a criminal abortion except where the physician had been convicted of crime. When these cases came before the Examining Board, they would insist under the old law on substantially the same quality of evidence as is required in a Criminal Court, and would require that the proof show that the physician was guilty beyond a reasonable doubt of having committed a criminal abortion; otherwise the charges against the physician were dismissed. In the new Medical Practice Act, the Legislature made it plain that such evidence was not necessary. The section is very brief and I shall read it.

Under Section 1264 of the Education Law, it is provided as one of the grounds for the revocation of licenses of physicians that

> "The license of a physician who undertakes or engages in any manner or by any ways or means whatsoever to procure or to perform any criminal abortion"

may be revoked or the physician may be suspended from practice or he may be censured or reprimanded.

Under this law, it is not necessary to prove that an abortion has actually been committed or attempted. Under this section, proof of the undertaking or engagement in any manner whatsoever or by any ways or means to procure or perform a criminal abortion is sufficient. The Medical Grievance Committee has before it cases today in which physicians have been charged with attempting to undertake to commit criminal abortions. It is on the evidence in one of the cases of a woman alone that the charges against the physician were presented.

It is unnecessary to have evidence beyond a reasonable doubt before a finding of guilt may be made. That finding may be made on any legal evidence whatsoever that is credible establishing the undertaking by the physician to perform the criminal abortion. In other words, where a patient goes to a physician's office —I am making this a little more detailed because I know that there are many physicians present in the room—and this may be of some benefit to the profession—and this patient tells the

physician that she is pregnant—it may be that she is or is not, that would not make any difference, and the doctor examines the patient and undertakes or agrees to perform a criminal abortion by any method, arranges for the fee, taking a deposit without giving a receipt, arranges an appointment at a later date and the doctor actually examines the patient under these circumstances, I believe that the Medical Grievance Committee has power to hold that that is an undertaking to perform a criminal abortion even though the physician did nothing more.

It may be said that that is going a great distance under the law, but it will be remembered that the purpose of the Medical Practice Act is to stop these criminal abortions on the part of the profession and the reason is that if proof of an actual abortion is required, it is almost impossible to obtain the evidence against the physician who performs a criminal abortion, because in most cases either the patient dies or is satisfied that the job is well done and makes no complaint. No matter what the character of the evidence, however, the law surrounds the physician with protection as against false charges.

Dr. Burk's paper is supported by many authorities. I shall not go into the law as it existed in the old Roman days or any of the earlier periods mentioned by him. I shall concede everything he said on that phase of the subject. In that connection, I might add that abortions were known and guarded against back in the days of Hippocrates. The Hippocratic oath makes specific mention of the subject matter under discussion, part of which I shall quote:

> "Ye do solemnly swear, each to whatever he holds most sacred * * * that ye will exercise your art solely for the cure of your patients and will give no drug and will perform no operation for a criminal purpose even when solicited * * * far less suggest it * * *.
>
> These things do ye swear."

That oath has followed through many centuries and is still administered to students about to be admitted to practice. Every physician in the room will recognize the language. So that even in the old days they recognized the evil of criminal abortions, for a promise to refrain from performing criminal abortions was part of the physician's oath administered at that time.

I do not want to be misunderstood either by my participating in this discussion or by any emphasis that I have placed on any phase thereof that physicians today are generally prone to practice improperly. In the few years that the Medical Practice Act has been in force, it is really surprising in view of the figures mentioned by Dr. Burk how very few cases are called to our attention. Many of them may have involved physicians or unlicensed practitioners in other states. I can only think of two physicians in the last three years who have been before the Medical Grievance Committee of New York for either committing or undertaking to commit criminal abortions. While it is a matter of rumor that criminal abortions are numerous, yet on the whole the medical profession in this State is upright and honorable. The criminal element of the profession constitutes but a small fringe on the border.

Recently I was privileged to read a paper before the Academy of Medicine and therein I quoted Elwell who very aptly expressed the opinion which I possess and which most clear thinking people have of the medical profession. He said:

> "That a profession should be protected that has for its object and end the accomplishment of great good, assuaging pain, physical and mental, the lengthening of a precious life, a profession that has produced in all ages, able self-sacrificing men and now has within it as noble examples of moral and intellectual manhood, possessing substantial knowledge and practical skill as ever blessed our Earth."

In conclusion, I desire to say that it has been a privilege to be invited to address you on this most important subject.

Otto H. Schultze, M.D.:—The subject of the growth of the law has been well covered by Dr. Burk and by the interesting discussion of my two friends from the legal profession. The law of course is an excellent one, but in connection with convictions of women for procuring abortions upon themselves, I think the number tried is practically nil. In connection with the law against committing abortion, where the patient survives and the crime is simply the commission of abortion, the convictions again, with possibly the exception of cases where the complaint is made by the Police Department, will be very rare, and practically none at all. The Court generally frowns at first upon a case that is framed by the Police Department, although probably additional evidence against some illegal practitioners cannot otherwise be gained. The huge number of sacrifices, that is, deaths, murders, by abortion where the women get into the hands of incompetent, dirty, and careless operators, where the work is done under conditions where asepsis is out of the question, and where the effort at secrecy is so great, for the poor victim makes every effort to try to continue her work as though nothing had happened, I think is an awful thing to contemplate. The exact number I do not know, but there are many cases during the year that coma to autopsy where simple abortion is found as cause of death and no cause in the shape of disease to account for spontaneous abortion, where in all probability abortion was induced, merely from the corroborative symptoms of sepsis, although that would not carry weight as evidence in a court of law, but would have scientific weight, based on the excellent work in the Leopold Clinic in Dresden and in the Kelly Clinic in Johns Hopkins; infection means intected, and infected by handling, by the passage of a finger, an instrument or something else, and in the great majority of cases, thousands of normal births in the Leopold Clinic where no examinations were made, and where no instruments were used, sepsis was unknown.

Then the marks of instruments come into play; it is quite easy for us to draw the conclusion, a scientific conclusion, that this is a human being that has been killed by an abortion in a large number of cases. In regard to the preparation of evidence that will stand the test in court, because the burden of proof is on the people, the story is quite a different one. I expect my friend Mr. Peters will bear me out, because he has had experience in connection with the District Attorney's office in Brooklyn. Assume a doctor against whom evidence is given and who thereafter denies that he ever did anything to the woman in question; such is the best case in connection with obtaining evidence that may eventually lead to his conviction. On the other hand, assume that the doctor in question, if there is any suspicion against him, frankly admits it, and says, "yes, I did the operation", but seeks to excuse himself on the ground of the provision of the law that the abortion was justified to save the mother's life, even though he may commit any number of grave surgical errors in technic and in judgment (I think that is possibly what Mr. Peters referred to when he said such a man had the best defense, but he did not mention the particular defense in question); that is a statutory defense, the exception is for the preservation of the life of the mother, and of course the life of the child does not come into play until premature delivery for the preservation of the life of the mother and child. I think it may interest you to learn that in some cases which appeared to be very definitely against the physician or midwife in question, a very careful examination and preparation of the case led to the acquittal of a presumably innocent person, although some of the people who had charge of the case during its investigation seemed to think that the individual charged was guilty and should have been convicted. A midwife had been indicted for the crime of manslaughter in connection with the commission of abortion. She was arrested by the police; an autopsy had been done by the Medical Examiner, but in the preparation of the case one of the Assistant District Attorneys thought there was something wrong. On examining the report it was noted that a full term fetus had been found intact in the amniotic sac, and the history was that the midwife had been called and there was a terrific hemorrhage from which the woman lost her life. The police, seeing a dead woman and a living midwife, could only draw one conclusion, but it happened to be a case of placenta praevia, wnere the poor midwife had all she could do to endeavor to stem the tide of the terrific hemorrhage by endeavoring to pack the vagina of the woman.

Another case happened in the office of a physician and this might happen to any man. Hemorrhage may occur in connection with the pregnancy, and if it takes place in the physician's office, the woman may bleed to death before he can get assistance. He is alone with nothing for his defense unless he can find somebody who knows something of medical jurisprudence, but also clinical obstetrics, and knows something about the position he may be placed in. It is all well enough for a person to say a physician should call for assistance or should ring up an ambulance and have the woman taken to the hospital, but this may happen in anyone's office before he has a chance to get help. Under such circumstances it is well that people who are clothed with authority in the preparation of these cases are not simply out for convictions, but primarily out for gaining the truth.

I remember another instance, a case described in the mortuary by many doctors who saw it as one of the worse cases of criminal abortion they had ever witnessed. It was a case of laceration of the fundus of the uterus evidently produced by a curette, for within the abdomen were divided parts of the fetus, including the head. The fetus was about three months or a little over. In a bucket brought by the police from the apartment of the deceased there were found parts of the fetus and the right ureter, from the pelvis to the bladder; and the right common iliac artery was lacerated. The doctor who had curetted this woman had her admitted to a hospital where a laparotomy was done for the purpose of attempting to save her life. During the operation she died. The doctor stated that the woman had called at his office a week or so before, and without any further examination he came to the conclusion from the history, as he stated, that she had toxemia of pregnancy, and that her pregnancy should be immediately terminated. That might be a correct procedure, but it is

better for one physician to call in another in consultation so that the two may divide the responsibility. At all events, he took the responsibility on himself and proceeded. The examination of the liver showed advanced degeneration with multiple hemorrhages, and the examination of the kidney showed complete necrosis of the epithelial cells in the convoluted tubules, in a word, the anatomical evidence of toxemia of pregnancy. Although abortion was justified, his method of procedure left much to be desired in its performance. In this regard there are many sacrifices in the commission of abortions. There are undoubtedly, as Dr. Burk said, a large number of abortions committed, some of them justified, and their morality in that regard does not guarantee their safety, except that in those cases the women are usually well taken care of. In the same way, if they are well taken care of, although the abortion is not medically indicated, the result is not the least different. The condition dangerous to life then is one in which bungling, unclean, dirty, unskilful work is performed. It may occur to most of the men who have had obstetrical experience that the main mistake is frequently made in misjudging the time of pregnancy,—how far it may be advanced. A clean curettage which may be perfectly safe in the early stage of pregnancy may in the third month be the death warrant of the woman, unless the operator is amply prepared to stop hemorrhage by rapid emptying of the uterus. That was the trouble in all probability in the case I mentioned, where the doctor made the diagnosis of toxaemia of pregnancy, which seemed like a bluff in connection with his defense, but the proof was in the autopsy. The laceration of the placenta caused a furious hemorrhage The attempt to check it by rapidly emptying the uterus with the curette led to perforation and the injuries described.

When we come down to the last analysis, I think Mr. Peters will probably agree with me that the defense not only has the better chance of acquittal except for some definite and distinct lie in the shape of a denial by the defendant against which evidence is adduced, but he has twelve chances in the jury, and I doubt very much whether at the present day we can impanel a jury of twelve in which one at least has not had something to do with an abortion.

L. W. Zwisohn, M.D.:—Dr. Burk gave us an excellent paper on "The development of the law of criminal abortion" from ancient time to the present era. The custom to destroy the fetus before quickening, as it is known among the laity "feeling life", was not considered a sin against God nor a crime against society. The women thought, and are still under the impression, that the fetus has no life until they feel what they call "life", which is merely a certain movement in the uterus at about four months of gestation. As a matter of fact, this movement is produced by the fetus floating in the bag of water. Life is continuous. The living ovum of the female unites with the living spermatozoa of the male, it begins to grow in the uterus, until fully developed, and the child is expelled by the contraction of the womb. When life in the fetus ceases, a miscarriage is the result. I was glad to hear Sol Ullman, Deputy Attorney General, State of New York, representing the State in cases of criminal abortion before the Grievance Committee of the State Medical Society, state that since the Medical Act became a law about three years ago, only two cases of criminal abortion by doctors were brought up on charges, proving that the medical profession consists of high minded and honorable men.

Dr. Burk mentioned that Rome fell because abortions were so frequent that the death rate was greater than births. It is about time that the public woke to the danger of the open teaching of birth control by nurses and the so-called social workers. Births are decreasing from year to year. The so-called birth control must remain in the hands of medical men. It is a medical as well as a social problem! The term birth control is a misnomer. The woman can prevent conception but is not sure that when she will be anxious to have a child that she will become pregnant. I have seen a number of cases where birth control was practiced, and the women became sterile.

L. T. LeWald, M.D.:—I don't know whether I ought to bring the matter up, but I do not think Dr. Burk has called attention to the latest method of producing abortion legally, and that is by the use of the *x*-ray, for purposes of producing abortion in proper cases, to save the life of the mother. There are now several hundred cases on record where physicians have legally produced abortion by means of the *x*-ray. Where those cases have been reported it has been mentioned usually that in the future one has to guard against the illegal use of the *x*-ray for this purpose. Probably on account of the expert knowledge required, and higher voltage *x*-ray apparatus used for this purpose, together with the danger of damage to the skin from overdosage, it may not fall into the hands of those who are incompetent, although it might be a means of adding to cases of this sort. I would ask Dr. Burk if he knows of any such cases, up to the present time. From what Mr. Ullman has told us of the New York State law and the working of the new Medical Practice Act, no new legislation would be needed to protect the public from such *misuse* of this most valuable agent—the *x*-ray.

Israel Feinberg, M.D.:—I was interested in Dr. Burk's paper, and I think it was much more voluminous than what he read you to-night. He has clarified it to shorten it, so therefore what he has said of the development of the law of criminal abortion should, if printed, be printed in full for the members of the Society, so they can get all of his thoughts as to its development. In the discussion this evening we did not hear much about the main end of the paper—the development of the law of criminal abortion—but they got to the question of criminal abortion in 1929, or within our period or lifetime. Of course the Deputy Attorney General, Dr. Schultze and Mr. Peters all covered that particular phase of the subject. Yet it does not really impinge upon the actual heading of the paper, and I think the subject has been neglected by the other speakers, so I wish to state that there are always two sides to every story, and after the two sides are very carefully taken up and weighed, the prosecuting officer must be guided very often in various cases by testimony that seems probable, by testimony that seems improbable, by autopsy findings that are positive, and by the question, does the woman always tell the truth, and does the doctor always tell the truth? In the case of a physician to be accused before the Commission under the New Medical Practice Act, a man is accused of accepting a fee of $50, or $100, or $150, to do an abortion. No examination is made, and the woman walks out of his office, and then comes back to the doctor the next day, and says, "I have changed my mind, and I want my money back", and the doctor refuses to give the money back, and she makes a complaint. The question is one, if you take that particular case, whether you should be guided by the preponderance of evidence as to the story of the woman and the story of the doctor. There are simply two conditions in corroboration of either story; usually nobody is present, or perhaps the husband was present in the outer room and he corroborates what the wife told him when she came out. Then we have on the other hand the question of the doctor and his nurse. There is no corroborating the stories, and it is a very complicated situation. The question of abortion has been a very serious one from the time of Adam and Eve. We do not know what happened after they were driven from the Garden of Eden; we do not know how many abortions were performed by various twigs and other foreign substances, and what took place, because at that time there was no way of getting a case history. The case histories have all disappeared.

In the case of infanticide, as mentioned by some of the speakers, the finding of Moses in the bullrushes was to try to save the child from infanticide by one of the Pharaohs of Egypt who had set forth an edict that all Jewish children of male persuasion should be killed, and the mother hid the child in a little carriage or basket which was found in the bullrushes by the very daughter of the man who issued the edict. As a result of that the greatest man in Bible history ultimately came to lay down the Ten Commandments. We must get down to later years. Let us jump from Moses to the Coroner's Office from 1910 to 1919. Dr. Schultze was associated with me for a number of years, and when he was associated with me, we went to the autopsy room in the old Mortuary on 26th Street, and we found that the infections so overclouded the fact of the abortion that it was impossible to find scientifically what had happened because the women would go eight or ten or twelve weeks after the abortion had been performed. In a case of that kind, when a man went on the stand and was asked the question "Did you find distinct evidence of an abortion?" he could not consistently and honestly say he did, but he could describe the infection and say there was a certain amount of destruction of tissue, or there was a punctured uterus with the abdomen full of golden yellow pus, but the earmarks of the instrumentation had practically been washed away.

The subject is one that cannot be covered in an evening by a paper, and will never be covered to the satisfaction of the world and the laws of the different states and the different countries, because in every country the law differs, and in every city the law has certain loopholes and outlets, but if the young of the newer generation are to be taken in hand, as they should be taken in hand, to come back to the old part of the Ten Commandments "Thou shalt not kill", from early childhood, and they are to be taught that the fear of God should be in their breasts, and abhor the thought of taking human life, no matter at what stage, whether it is the second day after conception, or the eighth month and the 29th day, it depends on the teachers of the future. Shall the teachers walk to the right, and walk in a straight path, or shall the teachers walk zig-zag like Margaret Sanger and others?

Samuel B. Burk, M.D. (closing the discussion):—Owing to the lateness of the hour, I shall forego making any comments in connection with the very excellent discussion.

(Concluded on page 168)

Insanity As a Cause for Divorce or Annulment*

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Form a legal standpoint marriage is a contract and, like other contracts, may be void or voidable. The statutes of various states make certain marriages void, such as those between parties of various degrees of consanguinity, or under a prescribed age, or between whites and blacks; or where too many husbands or wives are accumulated. Some of these marriages are at times void without process of law, some are criminal.

A person can not make a contract unless capable of understanding, must have the mental capacity to give consent; so insanity or idiocy present at time of marriage is regarded as rendering the contract voidable.

Divorce is, in general, applied for when the desire is to dissolve the contract and is based on the theory that a valid marriage existed, but some cause has arisen since then which, under the law, is ground for breaking the contract. Annulment proceedings, on the other hand, are essentially based on the theory that for some cause existing at the time of marriage, no valid marriage ever existed. The principle has also been that divorce is granted only when the plaintiff or alleged injured party can show that the other was the wrong-doer.

Insanity arising after marriage would not make the individual a wrong-doer, but the legislatures have not always made the distinction and the statutes in several states list insanity among the grounds for absolute divorce.

Keezer, in his book on marriage and divorce, states that in a case in the State of Washington it was held that the matter was a rightful subject for legislation. Religion may enter into the phraseology of the statute, the Catholic Church prohibiting divorce but an annulment is allowed.

A digest of marriage and divorce laws of the United States and possessions, published by Attorney Livy of New York City, lists the grounds for absolute divorce in various states and territories, and these grounds range all the way from none in South Carolina to as many as 12 in Kentucky, the average being about 6. Adultery is a universal ground, next followed by cruelty, which is designated in all sorts of ways, such as barbarous treatment—personal indignity rendering plaintiff's condition intolerable—grievous bodily injury or mental suffering—intolerable, extreme, inhuman, personal abuse—intolerable severity, etc. Next in order of frequency comes abandonment or desertion, which appears 44 times out of 51. Next, imprisoment or conviction of a felony, 43 times. The minimum imprisonment term appears to be 2 years, but abandonment for as short a period as six months is at times considered sufficient. Habitual drunkenness appears 41 times, and impotency or physical incapacity, or malformation, or incapacity of procreation, 37 times. Narcotic addition is apparently regarded as much less serious than alcoholism, as it occurs only five times.

These are the grounds which occur with considerable regularity, but there are many others which apparently represent the reaction of the law-making body of that state and a given situation, or represent the personal desires of an individual with strong political connections. There are such grounds as the uniting with a religious society whose creed requires renunciation of the marriage covenant; leprosy, or "any cause deemed sufficient by the court"; the attempt to take the life of the other by poison or other means, showing malice, etc.

Of these 51 states and territories, Livy says 12 provide that insanity is a just cause for divorce; Keezer lists 13. An attempt to get more details than are given in Livy's pamphlet or Keezer's book has not been very successful, but at least three of the states credited with such statute deny it. The Director of the Legislative Reference Bureau of Pennsylvania writes: "One of the acts providing for procedure in the case when one of the parties is hopelessly insane, has been at various times erroneously interpreted." A copy of the law in question which accompanied his letter bears out his statement.

The Secretary of State of Tennessee writes: "Insanity is not a ground for divorce under the laws of this state," but an attempt to get more detailed information has not been successful. An assistant attorney general of Oklahoma writes that the same is true in his state.

The information as to the exact provisions of the remaining 10 statutes is very incomplete.

North Dakota has a law passed in 1915 and still in force which provides:

"Insanity for a period of five years, the insane person having been an inmate of a State institution for the insane in the State of North Dakota, or an inmate of a State institution for the insane in some other state for such period, and affected with any one of the following types of insanity: Paranoia, paresis, dementia praecox, Huntington's chorea, and epileptic insanity; provided that no divorce shall be granted because of insanity until after a thorough examination of such insane person by three physicians who are recognized authorities on mental diseases, one of which physicians shall be the superintendent of the State Hospital for the insane, the other two physicians to be appointed by the court before whom the action is pending, all of whom shall agree that such insane person is incurable; provided, however, that no divorce shall be granted to any person whose husband or wife is an inmate of a State institution in any other than the State of North Dakota, unless the person applying for such divorce shall have been a resident of the State of North Dakota for at least five years previous to the passage of this Act."

It is said that in the *Hawaiian Islands* incurable insanity of three years or more is considered sufficient.

In the State of *Washington*, "in the case of incurable, chronic mania or dementia of either spouse having existed for five years or more, while under confinement by order of a court of record, the court may, in its discretion, grant a divorce." The letter I received from the law librarian does not describe the procedure to determine the chronicity or incurability.

Alabama is said to have a law which can be invoked after the defendant has been 20 years in an asylum and is incurable. The State Department of Alabama referred my letter to the Adjutant General's office and they in turn to the Health Department and there it apparently died.

Utah. According to Livy and to Keezer, this state grants divorce for "permanent insanity." I have been unable to secure any further information.

Georgia. The Secretary of State writes that "mental incapacity at time of marriage is one of the grounds for

* Presented before the Society of Medical Jurisprudence.

divorce." Why, if it exists at time of marriage, it should lead to divorce rather than annulment, I do not know.

Mississippi. In the publications previously mentioned this state is covered by the three words, "Insanity or Idiocy." A letter to the State Department of Mississippi did not result in any additional information.

Tennessee is even more briefly covered by just one word, "insanity." The Attorney General of that state used up as much paper and time telling me his office was not authorized or required to furnish information and referring me to a lawyer characterized as "bright and promising" who would prepare a summary of their laws on the subject for a sum to cover the cost of typing —as he would if he had briefly given me the information requested

Idaho is said to provide for divorce for "Permanent insanity" if the alleged insane spouse has been in an asylum for six years next preceding the action. The reply to my letter to that state produced copies of most statutes relative to divorce—except the one for insanity.

Florida. In this state incurable insanity for four years is listed, but apparently they are too busy down there entertaining important people to bother with a letter which only wants to know about their laws and asks nothing as to climate or real estate.

I am sorry, therefore, that I could not secure more data for you for comparison with the New York State law. It does stand out, however, that the tendency has been to stress chronicity or incurability, or a considerable period of time continuously in a State institution, or both.

So much for divorce.

The publications of Livy and Keezer indicate that 43 of the same 51 states and territories provide that insanity at time of marriage is ground for annulment, although the phraseology varies and is often expressed in such terms as mental incapacity, mental disability, unsound mind, want of understanding, etc. It also could come under the phrase "an impediment that renders the contract void." In addition, two states provide that insanity before marriage is sufficient cause, and a third that it is, unless the one against whom the allegation is made can show a certificate of recovery. In two states the marriage is said to be voidable only if at the time of ceremony the woman is under 45. Keezer adds that Connecticut, Kansas, Michigan, Minnesota, Ohio and Wisconsin have laws prohibiting marriage of epileptics, imbeciles or the feeble-minded, when the woman is under 45. Practically every state provides that a marriage is voidable on the ground of fraud. Therefore, we may say that in the United States and its possessions the marriage contract can be voided when it can be proven that one of the contracting parties was insane at time of marriage.

The 1928 Legislature of New York amended the Civil Practice Act in regard to annulment when one party is a lunatic and also passed a new law providing for an annulment procedure on the ground of chronic insanity.

Section 1137 of the Civil Practice Act as amended by Chapter 83 of the Laws of 1928 now reads:

"An action to annul a marriage on the ground that one of the parties thereto was a lunatic may be maintained at any time during the continuance of the lunacy, or, after the death of the lunatic in that condition, and during the life of the other party to the marriage, by any relative of the lunatic who has an interest to void the marriage. Such an action may also be maintained by the lunatic at any time after restoration to a sound mind; but in that case, the marriage should not be annulled if it appears that the parties freely cohabited as husband and wife after the lunatic was restored to a sound mind. Where one of the parties to a marriage was a lunatic at the time of the marriage, an action may also be maintained by the other party at any time during the continuance of the lunacy, provided the plaintiff did not know of the lunacy at the time of the marriage."

The new Chapter, 589, added to the Domestic Relations Law this enactment:

"Section seven of chapter nineteen of the laws of nineteen hundred and nine, entitled (An act relating to the domestic relations law, constituting chapter fourteen of the consolidated laws), as amended by chapter one hundred and sixty-five of the laws of nineteen hundred and twenty-four, is hereby amended by inserting therein, after subdivision four, and before the concluding paragraph, a new subdivision five, to read as follows:

"Has been incurably insane for a period of five years or more; provided, however, that if the marriage be annuled on the ground of the insanity of the wife, the court, before rendering judgment, must exact security to be approved by a judge of the court, for her suitable care and maintenance during life. Provided, further, that judgment annuling a marriage on such ground shall not be rendered until in addition to any other proofs in the case, a thorough examination of the alleged insane party shall have been made by three physicians who are recognized authorities on mental diseases, one of whom shall be the superintendent of a state hospital for the insane, the other two to be appointed by the court, all of whom shall have agreed that such party is incurably insane and so reported to the court."

Since this act became effective, July 1, 1928, there has been a steadily mounting number of petitions to the court for relief under it.

Unless the appointing judge repudiates the findings of his own appointees, the actual decision as to annulment rests practically in the hands of the three commissioners; and in arriving at their opinion they must reach conclusions as to two important facts. First, has the defendant been insane for five years or more? Second, is the insanity incurable?

The determination of the first point, i.e., duration of the mental disease is, of course, easy if the defendant has been for that length of time in a State hospital; but it becomes increasingly difficult the shorter the period in a State institution and the longer the period merely covered by the allegations of the petition. One can readily see that the commission, to arrive at a just opinion, might have to devote considerable time, see the defendant's relatives, and perhaps neighbors. The powers of the commissioners are not defined; there is no provision as to costs.

There is at the present time a case pending where the defendant, a wife, is a patient in the Brooklyn State Hospital, but she has been a patient with us for only a few months, and the special guardian appointed by the court to defend her interests has filed his answer to the summons and complaint, and in such answer denied the allegation that she has been continuously insane for the minimum period specified in the law.

In another case the husband's sworn petition at the time she was in an observation ward contradicted as to duration the sworn statement in his petition for annulment, and the case might have become exceedingly difficult had not examination of the defendant also demonstrated that her disease was by no means necessarily chronic; in fact, previous attacks with recovery had oc-

curred, and when he learned that the commission's report might be adverse, the matter was dropped.

The next decision to be arrived at by the commissioners, i. e., incurability, may also, in many cases, present extreme difficulties and honest differences of opinion. One of the early cases in the metropolitan district was that of a wife who had been for over 20 years continuously in a State hospital and who, under examination, showed the end stages of a deteriorating or dementing psychosis. In this particular case one would have few, if any doubts; but even the term "incurable" is subject to slight differences of definition from a psychiatric standpoint. If incurability is considered to be compatible with recoverability, then we might, in considering the records of other State hospitals, find such terms as "discharged with a social recovery"; and one might not know just what that meant unless one were acquainted with the particular psychiatrist who gave the opinion.

The diagnostic names applied to certain psychoses convey to many, by the mere name, a presumption of chronicity. For example, until very recently the prognosis was considered to be practically hopeless in a case of general paralysis; but since the introduction of malarial treatment, approximately one-third develop what is called a good remission, and many of these good remissions are difficult to differentiate from recovery. As the introduction of malarial therapy has entirely changed our viewpoint in one form of mental disease, accompanied by organic change in the brain, it is quite conceivable that today or tomorrow a method my be discovered which will prove equally, or more, efficacious in other types of organic psychoses.

Most of these organic cases as seen in State hospitals are, it is true, associated with the latter end of life, but not all; there are in New York State a quite considerable number of patients whose hospitalization is the result of an attack of lethargic encephalitis, and although as yet nothing has been discovered which materially benefits these patients, it is quite possible that something will be; and the malarial treatment of general paralysis is entirely empirical; we speculate as to how it may act but we do not know.

The large group of mental diseases, ordinarily classed as functional, includes two particularly large divisions, and these two forms of mental disease account for a very large proportion of our total admissions to State hospitals. These two, i. e., dementia praecox or schizophrenia, and manic depressive are by no means clearly defined disease entities. Many typical cases are, of course, met with where there is no question as to diagnosis; but in both groups there are border line cases and cases with a mixture of symptoms so that even with the best thought of a number of psychiatrists at a State hospital staff conference, a unanimous decision is not reached; and all of us who are psychiatrists can recall many cases where early in the disease or period of observation, we leaned toward one classification, only a few months later completely to change our opinion.

To the minds of many a dementia praecox diagnosis carries with it an unfavorable prognosis (apparently does in North Dakota), and manic depressive, a favorable one. We know, however, that this feeling or belief is entirely unjustified by the facts, and that many in whom the diagnosis of manic depressive can be quite well substantiated do not progress to recovery, but to apparent chronicity; also that many who are quite certainly dementia praecox, while they perhaps—but probably do not in most cases make a complete recovery—do, however, show marked improvement and are able to go out in the world, mingle with their fellows and maintain, even over a period of many years, a relatively stable condition.

It appeals to me that if there is any doubt the benefit should be given to the patient, and I do not feel that our present law properly safeguards the wife's interests. Disregarding the motive which will undoubtedly be operative in many cases: that the husband, as plaintiff, merely wishes to legalize a relation into which he has entered since his wife's hospitalization, or his desire to be rid of a troublesome burden—we must grant that he has, by her illness, been deprived of her services, and perhaps of her almost essential help in connection with his business. It may be quite proper and desirable that another woman enter his home properly to bring up minor children, and without the relief which this law provides he might, and is, many times, deprived of the possibility of heirs. On the other hand, there is, so far as I know, no other cause for annulment or divorce except imprisonment for a felony, at the trial of which action the defendant can not in person appear and defend; and the bond which the husband must put up for the wife's support and maintenance for the rest of her life is dependent upon an average expectancy of life and his earnings at the time of the trial. In practice, the maintenance is apt to be on the basis of the actual cost to the State, and this does not take into consideration supplying her with any of the niceties of life. She, unless supplied by others, must thereafter wear State clothing; and any little luxuries which come her way must be presents. Many chronic cases in a hospital reach a state where they are quite comfortable. They perhaps work in one of the hospital industries; retain or regain a fair interest in amusements, newspapers, books, etc., and if they had the opportunity would greatly appreciate—and many do—an occasional outing; an automobile ride; a trip with their relatives to the village or the business section of the city; a meal in a restaurant; a short visit to the home of a relative or friend; and many have deposited regularly to their credit in the Steward's office small sums of money with which they buy extra fruit, candy, toilet articles, etc. It is very readily conceivable that the husband's financial status at the time of the action may be relatively poor, but industry in his business, a lucky speculation, or some other circumstance, may render the type of care the ex-wife is receiving five years from then entirely inadequate as compared with his improved finances.

While it is, of course, true that she would have a legal right to petition the court for additional relief, it is likely that in practice this would almost never happen. She has, by the annulment, lost all her dower rights; and she is deprived of all these things because of an illness and not because of any wilful act. As it would seem probable that the custody of any children would be given to the successful petitioner, she would in many cases never see them again.

In the event that the petitioner is the wife, the husband is apparently considered to have no rights. Nothing occurs in the law as to his future care and maintenance and it is quite conceivable that a man might marry, buy a home, furnish it, perhaps surround it with considerable real estate which steadily improves in value, and prior to the development of his mental trouble put it all in his wife's name. It is also quite possible that following an annulment he might sufficiently improve to be released from the hospital and, if he went to his old home, find that the fruits of his industry were being enjoyed by another.

I must admit, however, that the possibilities of injustice being worked on the male patient does not give me much concern, but I do very definitely feel that the

interests of the woman in a State hospital have not been sufficiently safeguarded in this law. It also appears to require amendment for clarification.

These rather sketchy and speculative remarks are presented to your organization with the hope that they will provoke discussion; and, personally, I would be much interested in the reaction of your legal members.

DISCUSSION

JOHN KIRKLAND CLARK, ESQ.—The subject of the address of the evening, as Dr. Mills has indicated in his remarks, divides itself rather sharply into two sections, which form radically different bases for discussion.

The first is as to the right to obtain an annulment in cases of insanity on the part of the other spouse, existing at the time of marriage, and the second, the right to obtain a divorce for insanity occurring after the creation of the marriage contract.

While marriage is recognized by law as a contract, it is one of those peculiar contracts of the law which creates in addition to the ordinary contract rights what is known as a status—the status of husband and wife—the license which is issued by society to a male and female to live together and to raise a family—without which license, theoretically, male and female have no right in our modern society to live together.

In discussing annulment, the problem involves the strict legal theory of contract, namely, that if one of the parties has no mentality—has no mind—there can be no consent, and consent is essential to the formation of a contract. Therefore if it be established that at the time of the marriage there was insanity or a lack of mentality on the part of one of the contracting parties, there is clearly, on the basis of the legal theory, a right on the part of the other party to annulment of the contract on the ground that the contracting party, with whom he plaintiff entered into a contract, was unable to make a contract, and therefore no contract was formed; and unless there be shown some reason why that contract should not be annulled, like the birth of children, after the entry into the relationship, it would seem that there is sound basis in logic and there would seem to be equally a sound basis from the point of view of social welfare for the conclusion that the marriage status should be legally declared by the State to be non-existent.

The problem, however, of divorce, or the sundering of a previously valid contract, and the dissolution of a supposedly permanent status between two individuals, raises a distinctly different problem, and one in the consideration of which society is coming to take a distinctly different view from that held 100 years ago.

As I recall it, 100 years ago in this State, one could not get a divorce without an act of the Legislature. Certainly that was so in the early days of the State's history. Then came the granting of the right to the so-called injured spouse when the other spouse had violated the marriage contract by indulging in sexual intercourse with another person. That, for many years, was the only basis for divorce in this State, and in some other states that has persisted to this day.

Gradually, however, there has come to be a more tolerant attitude taken by the all-wise law makers of the various states, whose eccentricities have been so clearly pointed out by the speaker of the evening, and his figures clearly indicate that society as a group in the various states has studied the problem of the effect upon the community of compelling two individuals of different sexes to continue as husband and wife when the basis of the marriage relationship had ceased to exist. Certainly in most states habitual drunkenness and intolerable cruelty have been recognized as a basis for the dissolution of the marriage relationship; the right of the injured party in such cases particularly has appealed to the sentiment of the legislature.

There is, however, a constantly growing tendency to-day far more widely to recognize the right of society in general to take an interest in this relationship between man and woman which is known as the marriage relationship, and with that in view, from the philosophical standpoint, the subject of the paper of this evening is one which calls for careful consideration on the part of all of us who give real thought to such matters, in an endeavor to participate in the establishment of public opinion. It would seem that a law is reasonable, both from the point of view of society, as well as that of the individual, which enables a husband or wife whose spouse has become, as nearly as our medical science of the day is able to arrive at a conclusion, hopelessly insane, to enter into another relationship.

That of course reserves for discussion the point which the speaker of the evening has so clearly raised as to the legal and financial responsibility of the spouse who is thus freed. Certainly it would seem that one who, having entered into a relationship of marriage at the time when he was pleased to realize that the other party was "crazy about him", ought to be willing to take care of her when it is proved that the other party was crazy generally, but that does not mean that the man or woman ought not to have the right to enter into a new relationship for the benefit of society, as well as for the benefit of the individual; and for that reason, insofar as medical science enables us to pronounce an individual lacking in mentality, and incapable of sustaining the relationship of a spouse, it seems only reasonable that the other party, for the sake of society, as well as for his own sake, should be left free to enter into a new union, to raise a family in the community.

We are all deeply indebted to the speaker of the evening for his collection of the statutes of the various states, and for the view he has given us of the situation as it exists to-day, and I think it is a great credit to the society this evening that there are gathered together to-night so many keenly interested in a problem of this kind who can take this message and consider the various arguments which may be made pro and con, and participate in the formation of a healthy, effective public opinion on the subject.

ISRAEL L. FEINBERG, M.D.—It is indeed a pleasure to be here to-night, and to listen to Dr. Mills, whose broadness of vision toward the infant, only born in 1928, which is practically little more than six months old in the State of New York, treats it with such great consideration. He has covered and tried to reach as much information as he could get from the other States of the Union, and some of it has been very meager. Then my dear friend, Clark, whom I have not seen in some time, since he was in the District Attorney's office, gives us a very broad discussion on the subject, and tells us a great many things about annulment and the question of being "crazy in love" and "crazy" afterward. That, of course, is a question which even philosophers in ancient times found very hard to decide; whether love was a disease, or whether it was a condition. We do not know that even today, but nevertheless let us face the issue and sanely and calmly, and in just such meetings as this, discuss it. Up to July, 1928, in the State of New York, no matter what the condition mentally of a man or woman might have been, the courts had absolutely no jurisdiction as far as either annulment or divorce was concerned. The question of insanity did not enter much into it, and no cases of annulment appeared unless there were physical anomalies in which it was claimed that one of the parties was unable to carry on the marriage contract; those are the cases that went into the hands of the judges of the Supreme Court. Now into the hands of a judge of the Supreme Court is given this particular help, for he is given a Commission of three, consisting of the Superintendent of an institution, or in the absence of the Superintendent, the Assistant Superintendent, and two physicians, and these three individuals must pass upon the mental capacity of the patient, male or female, in question. Now, it is reasonable to suppose that the three men have never seen one another; perhaps I was appointed on a commission with Dr. Mills and Attorney Ehrhorn, and we had never met! we are three independent minds, and we are called into the case to make a thorough and cogent survey, and find that there is a distinct organic form of insanity. Let us take an epileptoid type. In this particular case, the girl marrying a man was an epileptic from her early childhood, and she had certain periods of epileptic dementia that were known to her family, and though it was known to her family that she was an epileptic, it was hidden from the man, and they were allowed to marry, and after bearing one or two children, she became an inmate of an institution, where she is kept for 9, or 8, or 7, or even 5 years. We have three men present to report to the judge in question. There is no question that a fraud or deceit in this particular case was practised, as supported by the evidence. There is no question about it. The girl was an epileptic; she acted strangely; the family knew it, but they kept it from the man in question, and then subsequently, the family, instead of putting the girl into a state institution, put her into a private institution, and the man is left alone for 8, 9, or 10 years; he is looking after the children. Now like all laws, this must stand the test of endurance. It must stand the human equation. There are commissions that will meet and testify to the court that there is no question about a particular case, that the case of Mr. Jones, or Mrs. Jones, or Mr. Smith, or Mrs. Smith, is an incurable case organically, and then next week somebody will discover some particular thing for an encephalitis lethargica that may cure it. Consider that *may*. We have been looking for a cure for encephalitis and poliomyelitis and various types of cancer since I have been in the practise of medicine, and that has been a few years, and we have not discovered it yet. That is a little matter of 35 years that I have been in the practice of medicine. Why should a man be bound down for the balance of his life with an incompetent in which there is absolutely at the present time and in our present knowledge, no chance of recovery and why should a woman be bound to a man under similar conditions?

The whole thing is that we must attack it in a broad sense. Each and every case must have its individual story. Each and every case must have its individual solution. Each and every case should be settled upon the evidence, and I am very glad to have been here to enter into the discussion.

WILLIAM STEINACH, M.D.—I was very much interested in Dr. Mills' paper, but I think he takes a rather pessimistic attitude. Looking back at this question, for the past 25 years, we find that up to a few years ago, either party was permitted to bring an action and if proper proof was adduced to show the existence of insanity at the time of the marriage, an annulment was granted.

Within recent years, however, the courts in this state have held that a marriage made with an insane person was voidable, but an action could only be brought by the insane person himself, or his relatives who had a voidable interest in the matter. This naturally shut out the sane party, and an intolerable situation arose, which I think this law, and the one passed at the same time permitting either side to bring an action for annulment, for insanity at the time of the marriage, aims to correct, and to my mind is a very beneficial one. It is as Dr. Mills has said a terrible hardship for a person to be tied to a person for life who is insane.

In the years past, numerous annulments have been granted where the application was brought by the sane partner to the marriage without objection. I remember some years ago being a witness in an annulment case, where a man and woman were married at an early age, in Russia about twenty-five years ago. She was undoubtedly suffering from dementia precox at the time she was married to him. They came to this country and shortly after her arrival she was sent to the Hudson River State Hospital, where she had remained for twenty years. The husband became a prominent rabbi in Chicago, and his position required someone to preside over his household and direct the social activities of his position. An annulment was the only solution to the problem. Another case that I recall was that of a woman who married a man who was undoubtedly insane at the time, and who shortly after was deserted by him only to later find him an inmate of the Rochester State Hospital, with both legs amputated, hopelessly, chronically insane. She was permitted to bring an action and succeeded in having an annulment granted. However, if the narrower view of our courts had prevailed at the time, neither of these persons would have been permitted to bring an action for annulment and would have been tied together as long as either lived.

I think this law is a very good one; I think it might even go farther and be enlarged to include, not only persons who are hopelessly insane and incurable, but persons who have had a number of attacks of maniac depressive insanity, where the hereditary factor seems to be very large and the taint is apt to be transmitted to the children. I think that if persons who have had three or four attacks of maniac-depressive insanity were prevented from having any further children, it would be a step in the direction of mental hygiene and eugenics.

I recently had occasion to go to one of our State Hospitals, to examine a man whose wife was endeavoring to secure an annulment under this act, where he was suffering from manic-depressive psychosis. He had been in and out of the hospital eight or nine times, and the last time, through a coincidence, I had committed him ten years ago. When I went down to the hospital as a member of the Commission, I found that he had been there continuously for the past ten years, when the statute only required five years, but because he was suffering from a manic-depressive attack, the Superintendent was loath to certify to the incurability of the man because, theoretically, a manic-depressive psychosis is supposed to be of the recoverable type, but he had deteriorated in the interval, and never will get well. Fortunately for the wife, the Superintendent took our view and the annulment was obtained.

I think this is a very good law, but it will require further study and modification. I think it might be enlarged to include cases where there have been repeated attacks of manic-depressive psychosis. As at present framed, it is a burden and a nuisance for the Superintendent, who is a very busy man, and placing him on the Commission puts a great deal of extra work upon him for which he can ill afford the time. Furthermore, some of the Superintendents whom I have interviewed regarding the matter, complain that they may be dragged all over the state in proceedings of this kind, especially in those State Hospitals which draw patients from widely scattered parts of the state, whereas patients in the Manhattan and Brooklyn State Hospitals are mostly drawn from the neighborhood. In order to relieve the Superintendents of this added burden, it might be amended to have the Commission composed of others. Taking it all in all, however, I think it is a good law and a step in the right direction.

C. FLOYD HAVILAND, M.D.—As has been pointed out the subject discussed by Dr. Mills covers two entirely different situations. There is probably little difference of opinion with respect to the propriety of an annulment of marriage on the ground of fraud because of mental disease existing at the time of marriage. However, it would appear there are grounds for differing opinion with respect to the different situation which exists when annulment of marriage is sought on the ground of mental disease developing after the marriage contract has been effected.

It has been asked why a person "should be tied down" when the marriage partner develops incurable mental disease and the discussion seems to show that there is a prevailing opinion that society should permit the annulment of a marriage on the sole ground of incurable mental disease which has existed a specified period of time. However, such conclusion can only be justified after it is shown that annulment of marriage under such circumstances is in the best interests of society and, as yet, I am unable to understand how society benefits through marriage annulment under the circumstances specified.

It is, of course, true that incurable mental disease means that the marriage partner of the patient suffers hardship, but exactly the same thing is true when either wife or husband suffers from a chronic physical disease. Marriage in theory is effected for life and for good or ill and I am unable to see the logic in a situation when one special form of disability is picked out as adequate grounds for the dissolution of marriage when other incurable diseases are not accepted as causes for the termination of the marriage relationship. If incurable mental disease is sufficient cause to annul a marriage, why should not carcinoma, tuberculosis or other disabling physical disorders be so regarded when the prognosis becomes absolutely bad as is so often the case? A person may be incapacitated for the marriage relationship just as easily by physical disease as by mental disease and I am unable to see the propriety in selecting mental disease as sufficient ground for the dissolution of the marriage contract when so many other disabling conditions exist which are not deemed adequate as grounds for marriage annulment.

By and large the average person suffering from incurable mental disease must be regarded as more unfortunate than the average person suffering from incurable physical disease despite which fact the law now provides for the annulment of marriage because of mental disability, thus placing the greater burden upon those so disabled and who, from a theoretical standpoint, should receive the greater protection from society. The law now renders it possible to deprive the mental patient of the marriage partner who should be the natural protector of the disabled individual and no one would deny that a mental patient needs protection more than the one suffering from physical disease. It is difficult to understand how, under such circumstances, the individual mental patient can be regarded as receiving proper consideration or even simple justice. A person may contract tuberculosis and be obliged to spend the remainder of life, or at least an indefinite period away from home, thus depriving the marriage partner of companionship and preventing the maintenance of marital relationship yet, so far as I am aware, it has never yet been suggested that such a situation should be deemed sufficient ground for the annulment of marriage. Where then is the logic in dealing with a similar situation resulting from incurable mental disease on another basis?

Furthermore in regard to the matter of incurability, it is now recognized by all psychiatrists that it is a hazardous matter to positively predict the ultimate outcome in any mental case. A patient recently came to my attention who after thirty-five years of hospital residence was able to return to society and has effected a so-called "social recovery" to which Dr. Mills referred. As regards dementia praecox, which is the disorder from which the vast majority of patients suffer who are in mental hospitals, a more hopeful attitude is now possible than was the case but a few short years ago. After all, incurability is more or less of a relative term and it is but a statement of fact to say that today there are numerous mental patients in institutions who could lead happier and more useful lives could a home environment be provided for them which, it would seem, would be strictly in the interests of organized society. It would, therefore, appear to me before expressing approval of a statute providing for the abolition of the home because of the disability of a husband or wife and a single special disability at that, the matter should receive more careful consideration.

I am also inclined to differ with Dr. Steinach with respect to the desirability of preventing pregnancy in patients suffering from manic-depressive psychosis. I have known persons with one manic-depressive parent who have done most important work and whose lives have been most useful to society. While it is probably true that it is undesirable for two manic-depressive persons to marry, yet I believe there are relatively few cases of manic-depressive psychosis who may not with reasonable safety marry normal individuals. I believe that society is as yet not in possession of sufficient definite data to justify the estab-

lishment of a barrier to the marriage of manic-depressive individuals to suitable partners.

Dr. Mills referred to the undesirable feature of the present statute whereby the Superintendent of a hospital in which a patient is confined should be a member of the Commission appointed by the Court to pass upon the patient's condition with regard to the question of meeting the requirements of the present statute in reference to incurability. The Superintendent of the hospital is theoretically the guardian of the patient and should ever seek to promote the patient's interests in every possible way. It is rarely to the interest of the individual mental patient to have a marriage annulled, and, hence, the Superintendent under the present statutory provision is placed in an anomalous position. An amendment to the statute is now pending and, as I am informed, is apt to receive favorable legislative consideration whereby the Superintendent of the hospital in which a patient is confined may not be a member of the Commission and it is to be hoped that such amendment may be enacted.

Another feature of the present statute which it would appear might well be amended refers to the personnel of the commission appointed by the Court to determine the mental condition of a patient before a marriage is annulled. The present law states in effect that the commission shall be composed of physicians who are properly qualified and "recognized authorities on mental disease." However there is no provision respecting the qualifications of the "recognized authorities." It does not state by whom the recognized authorities shall be recognized nor on what basis and it is certain that already commissions have been appointed with personnel lacking special psychiatric qualifications. Again, it does not appear that a patient declared to be incurably insane under such conditions receives proper protection and, after all, it is one of the prime functions of society to protect its handicapped and disabled members when they are unable to protect themselves.

L. W. Zwisohn, M.D.—I am glad to hear that insanity is a cause for divorce in the State of New York. The Legislature is to be congratulated. It is a humane law. I had a case about twenty years ago, after ten years of a happy married life, and the woman had three children; the husband became insane, accusing his wife that she was untrue to the marriage vow. He persecuted her and tried to kill her. A Commission was appointed and he was adjudged insane. He remained in the State Insane Asylum for ten years. The hospital authorities declared him to be incurable. The woman was told by her legal adviser that she could not get a divorce in this State. It happened that the family were able to send the woman to Philadelphia to establish a residence there and get a divorce, for the State of Pennsylvania recognized insanity as a cause for divorce. She is remarried and happy. The insane husband is still alive. Think of this woman if she were poor not being able to go to another State! She would lead a living death. This humane law is a blessing to the individual and is for the welfare of society. I must differ with Dr. Haviland's opinion. The doctor asks why should we allow divorce in insanity and not in cancer or tuberculosis. The answer is very simple. Cancer and tuberculosis are physical diseases which run their course and the patient dies, it may be in three or five years, but in certain forms of incurable insanity the patient may live to old age, as in the case which I mentioned. Another reason, in cancer and tuberculosis, the mind of the patient is clear to the end and it is the duty of the healthy partner to make the life of the sick one as comfortable as possible until the end, but in insanity the mind of the insane is a blank; it is immaterial to the insane whether the healthy partner remarries or not. I cannot understand why the law gives all the protection to the wife and none to the husband! The insane person, whether man or woman, is the ward of the State and the State must protect either one, irrespective of sex, but as the law is not long in existence I think amendments will be made to correct it.

Charles W. Bacon, Esq.—It may be well to take notice of one or two little mistakes concerning the New York laws. Section 1137 of the Civil Practice Act, as it existed prior to the amendment of 1928, was the authority for numerous annulments on the ground of "lunacy" at the instance of the sane parties to such marriages. I would like to call Dr. Mills' attention to the fact that the word "lunacy", not the word "insanity", is used throughout that Section. There seems to be a very clear and distinct understanding of the meaning of "lunacy" as an acute mania, whereas "insanity" itself may be mere melancholia as stated by Dr. Jacoby. Section 1356 of the Civil Practice Act provides for the appointment of committees for persons incompetent, etc., through lunacy, idiocy, and the like. Section 70 of the Mental Hygiene Law provides for the commitment of incurably "insane persons" upon certificates of "lunacy." The case of *Hoadley v. Hoadley*, which was handed down by the Court of Appeals last year, held that, under the wording of Section 1137, the action must be brought wholly and exclusively by the relatives of the insane person or his representatives, not by the sane party. The sane party had no standing. That has been amended so as to allow the sane party a standing.

Section 7 of the Domestic Relations law provides that in all annulment cases on the ground of "insanity", judgment annulling the marriage must not be rendered until after an examination by three medical experts, one of which shall be a Superintendent of an asylum for the insane. In some cases this works hardship to the person who is tied to the afflicted person. In one case I have in mind, the insane person is living in California and the sane spouse in New York. In this case it would be almost impossible for any person of moderate means to procure an annulment. An amendment is in order. I have another similar case in mind which is on its way to the Court of Appeals, and therefore ought not to be referred to by name. One misapprehension which seems to prevail is that "insanity" is or has been a cause for an annulment of a marriage. It is not a cause of annulment. Lunacy, however, has been a cause for annulment, but under Section 7 of the Domestic Relations Law we must prove it under conditions which cannot be met by proper or ordinary means. The very serious question which the Courts now have to decide is the difference between the meaning of the word "lunacy" and the word "insanity". The word "insanity" is only used as indicating a mental condition. All of this indicates that there is something in the French saying that "definition would be a science if it were not for words."

Louis B. Fassier, Esq.—It seems to me that Dr. Mills has gone over the ground for divorce in various states, and it might be of interest to know why there are so many grounds in the various states. At the time of the Declaration of Independence, we took over the common law from England. At that time it was quite a question among the states whether the common law should be accepted as our law, or whether we should accept the civil law, and it was merely a question of a few days' debate, and it might have been, if they had held out a little longer, they would have decided on the Civil Law, but they accepted the common law, because they were more familiar with it. Under the common law, there was no divorce possible. There may have been some members of the Bar who thought that common law provided some means by which a marriage could be dissolved, but this was not so. There was the ecclesiastical law, and since we took over the common law and refused to accept the ecclesiastical law, there was no law whatsoever governing divorce at that time, so each state had the liberty to form its own laws, and that is the reason for these various grounds for divorce. When we look back to ecclesiastical law we come to the name of a great lady known as "Good Queen Bess"—Queen Elizabeth, who ascended the throne in 1558. She was the daughter of King Henry VIII and of Anne Boleyn. She was brought up in the Protestant faith. When she ascended the throne she did away with the Roman Catholic legislature which preceded her reign. When she enacted the new laws, she was not governed by them, but had as many lovers as she wished, but the result was that under the ecclesiastical law, if you look it up, we come to the conclusion that it must have been taken partly from the civil law and partly from the Roman Catholic Canon Law. They took that from the Rabbinical Law in the Talmud, and so when we trace back the origin of the marriage laws, we have to trace back the origin of the human race. Why did the ecclesiastical law at that time, say in 1558, down to the time the Declaration of Independence was pronounced, 200 years later, and the ecclesiastical law work wonderfully? The causes for divorce were four: pre-contract, consanguinity, affinity and corporeal incapacity. There was no mention of mental incapacity at all. If you search the law you will find that mental incapacity is no ground for a divorce. That is a modern conception. As I mentioned, there were only these four grounds under ecclesiastical law; the first ground, pre-contract, means that a man or woman was bound by another marriage. They had already a contract of marriage. If a second marriage was entered into, it did not exist, because there was a pre-contract, consequently they could not marry. Consanguinity simply means that they have parents or relatives so closely related that it is unwise for the two to marry. Affinity is what is now known as adultery. They simply formed a new relationship, and that was a ground for divorce, and then we come to corporeal incapacity, which was the main ground for divorce, because if such a situation existed, the status of husband and wife could not exist. They considered that if a man was mentally incapable to carry on his work, but that he was physically capable to carry on his marriage, the principle of conjugal rights, as we call it, there was no ground for divorce. When our States refused to accept the ecclesiastical law, then they created by their legislatures their own idea according to their conception of what ground constituted reason for divorce, and that is the reason why we have in our Statute Book of each State so many different divorce laws, according to the temperament of the people, and it seems to me that there is really nothing new about having this 1928 law recognized by our State. We may perhaps in ten years from

now have a better law, where we will reduce the five years to two years. I remember the time when the divorce law was enacted in the State of Washington; there are several states which I presume Dr. Mills knows about, like Virginia and the District of Columbia, that have divorce laws for insanity prior to marriage, but the State of Washington in 1885 was the only state that declared that insanity after marriage which existed for five years should be a ground for absolute divorce. It was a test case, whether the State could have such power, and it was declared by the United States Courts that the State has a right to pass such a law. It happened in the State of Indiana where they tried to pass a similar law, the Court of Appeals of Indiana refused it, and said the State Legislature did not have the power to pass such a law dissolving marriage on the ground of insanity, and the United States Court affirmed that law too, meaning that each State has a perfect right to determine what its divorce laws shall be.

George B. Schoonmaker, Esq.—I wish to raise the question whether an amendment should not be added to this statute in so far as it applies to a case where there are children and where the insanity did not exist at the time of the marriage. It seems to me that in this case the children have a strong interest in having the marriage terminated instead of annulled. Children who have been born of parents who were sane at the time of their birth and who were married are put in an embarrassing and difficult situation if the marriage is later annulled, because as Mr. Clark stated earlier in the evening, then the marriage never existed; whereas, if the parties are divorced at that time, and the marriage merely terminated, there was for a certain time a valid marriage. The mere fiat of the law legitimatizing the children does not remove the stigma attached to them as the offspring of an unauthorized union. Those of us here and those who are considering the statute should bear that in mind in talking with other people and in influencing the legislature on this statute.

Isidore Hershfield, Esq.—I have been just long enough out of the general practice of the law to be able to get a common sense view of some questions. I think we are looking at this question through the wrong end of the telescope, and that is the way the telescope is usually held in the hands of a lawyer. I think the law of the State of New York is an admirable law. It is in line with progressive tendencies. It aims to make marriages that are no longer "unions", for some reason or other, separable. Some States have laws that make incompatibility ground for divorce, and they are not so very far wrong, either, some of us think. Clearly this state of affairs was foreseen by the great poet when he expressed his idea of the ideal state of marriage as being one where "two minds have but a single thought, two hearts that beat as one." When the two minds are no longer able to have a single thought, because one of the minds has become incurably diseased, that ideal state of matrimonial community does not exist and they should be separated, for the welfare of the parties to the marriage, as well as for the welfare of society in general.

Joseph Beihilf, Esq.—The argument of the last speaker, who says he is out of practice long enough to have a common sense view of it, suggests to my mind, as one who is still in practice, why marriage at all? I was very much interested in the paper of Dr. Mills. I regret exceedingly I was not here in time to hear his full paper. I have made no great study of this new statute that would admit of the dissolution of the marriage union under a new condition. I recall, however, all the years of my life constant reference to that solemn compact entered into between man and woman "until death do us part." When it is considered that under this new law this may be rent asunder, not really by the Court, but by a commission passing upon the sanity of the condemned spouse, I think we should hesitate, before giving our approval, and well debate this new law or rule of conduct in our social life, so integral a part of our human existence. With all due deference to the physicians and medical experts present this evening, I must confess, not as an antagonist in an opposite profession, that I have at times grave doubts as to the value of expert opinion. I have met it in what may have resulted in serious consequences in my own experience (laughter). You anticipate me. It is not with respect to the uppermost portion of my anatomy, my mental status, but with regard to my lower extremities. About 10 years ago I consulted an orthopedic expert and told him of the trouble I had with my left heel. He examined me thoroughly, then bandaged up both my limbs, and subsequently placed my feet in casts from which he made metal plates. These I walked upon for several months without relief. He finally determined to *x*-ray my feet, after which he stated "You have a very serious case of exostosis in each foot and must be immediately operated upon." I inquired as to how long this would keep me confined as I was a very busy man. He stated that the wound from the operation of one foot would take about three or four weeks to heal. That after that had healed a similar period would elapse for the other foot to mend. He elucidated his contention by endeavoring to point out to me something on the *x*-ray plates which he designated as a "spur". This was enough, for I was immediately "spurred on" to take off the bandages of my own volition and discard the metal plates, which had been a great discomfort to me in walking, and I have never had a bit of trouble with my feet ever since. In fact, I walk almost daily, during clement weather, from my office in the Woolworth Building to 42nd Street and Broadway, besides skating on the ice rinks in Manhattan. This was the opinion of an orthopedic expert. If one made that error in the diagnosis of my foot, what might one have done with my head? I think that Dr. Feinberg struck the keynote when he said that each case should be treated by itself and depend upon its own circumstances. There is a rule of law, especially in tort cases, that each case depends upon its own peculiar facts and circumstances, and the Court of Appeals refuses to follow other decisions presenting other circumstances merely because there is some similarity. So, I think that each case, so far as the determination of the sanity of the wife or husband is concerned, should be determined upon the peculiar circumstances of each case. Then, when there is a "social come-back", as is frequently the case as intimated by Dr. Mills, provision should be made within a certain number of years for permission to resume the marital relation. The regenerate should not be met by a successor really ordained by a commission of so-called sanity experts. Could a sadder incident in human relationships be surmised? Surely, there should be discussion and more discussion before this statute be given its fullest scope of play to the end of promoting real human justice.

Irging J. Sands, M.D.—As a physician, and one who is interested essentially in nervous diseases, may I say just a word of commendation on Dr. Mills' paper because of its importance? We physicians do not approach our patients with the feeling that they are bad or ignorant because they find themselves in trouble, but because they are human. One of the most serious of difficulties that a human being may find himself or herself in, is that the wife or husband is incurably psychotic. The 1928 law is a really humane and progressive measure, in that it tends to free the person from an incurable psychotic mate. There is no reason why any person should be tied to another when the latter is declared by those who are in a position to know as incurable. I believe that while the physicians were the first to prompt this measure, the statute was enacted by lawyers, and it was so enacted that an annulment was specified, rather than a divorce. While I sympathize with my friend who had the terrible experience with his exostosis, I cannot agree with him in his contention that anybody who had contracted a marriage should remain tied to his mate even though the latter is declared to be hopelessly and incurably insane. May I also call attention at this time to the late Dr. Southard's book "The Kingdom of Evil", and in it one of the difficulties enumerated in which a human being may be involved is legal problems. The 1928 measure tends to correct it.

Bernard Braun, Esq.—In the discussion by Dr. Haviland, he raised the question as to why it would not be equally wise since we have a statute in respect to mentally incompetent persons or insane persons, to have a similar statute that would govern cases where physical ailments were incurable. I think there is a wide line of demarcation between the two situations, because in the one case there is no possibility of mental communion, and the disease is of such character that there never can be, and there cannot be the marriage relationship because of the incurability of the mental disease. But in the case of a person who has a disease of a physical character, there is always the possibility that some cure may be found for the disease, however hopeless it may seem at the time of perhaps the detention of the person in the hospital. The conditions are entirely different, and besides, there is always in the second case that possibility of intellectual communion between two persons, the spouse on the one hand that is ill, and on the other hand, the one who is humane and interested to see that there is afforded the best possible care of the person apparently hopelessly sick. I wish Dr. Mills would take up that discussion because it seems rather interesting and draws that line of difference between the two situations.

I. J. Spielman, Esq.—I can hardly sit here without resisting the urge to express my opinion. It seems to me that the legislature is working in an inverted fashion. They are not starting at the root of the matter, but are beginning at the end. I think about two or three years ago it was proposed to have a law compelling a physical examination of all those who applied for marriage licenses. Why not start at the beginning? That was only a suggestion, but I think it would conflict with the Constitution of the United States, preventing any person from entering into any contract, marriage or otherwise, to do so as they see fit in their own minds. I also question the authority of the legislature to pass a law annulling a marriage of any party contrary to the consent of that party. By that I mean there are

many cases where the parties do not wish to be separated, and yet under the law it might be compulsory for them to do so. These are only suggestions and I feel certain that there is a lot of room for improvement in the law.

C. Floyd Haviland, M.D.—I trust I may be pardoned for again speaking, but I would like to comment upon the statement by one of the speakers to the effect that a mentally ill person is incapable of establishing what I think he characterized as "mental communion" with a marriage partner. If by "mental communion" is meant the maintenance of the usual emotional rapport which at least ought to exist with married couples, it can be definitely stated that many mentally sick persons who are incurable, so far as psychiatric knowledge can predict, may nevertheless be able to appreciate all of the ordinary affairs of life and may be even more dependent than normal people upon the support received through the continued affection and interest of the married partner. Of course such remarks do not apply to patients far advanced in intellectual deterioration but a relatively large proportion of mentally sick persons are disabled emotionally rather than intelllectually but they are no less mentally diseased. Were it not so psychotherapy, which is one of the principal therapeutic agencies in dealing with mental disease, would have but limited usefulness. So-called "mental communion" can be maintained between normal persons and mentally sick persons and the fact is daily demonstrated. Indeed I am glad to state that I have many genuine friends among mental patients whose friendship I value and which relationship could not be maintained without at least some degree of what I assume the speaker meant by "mental communion!"

Again I understood the speaker to make the statement in effect that, in general, mental disease has a more hopeless outlook than physical disease. While it is true some types of mental disease are recognized as incurable as soon as diagnosed, exactly the same situation prevails with respect to certain forms of physical disease, and by the same token, certain types of mental disease justify a favorable prognosis just as certain types of physical disorder justify the hope of recovery. The actual facts do not justify a generalized comparison between mental disease as such and physical disease as such with respect to a more unfavorable outlook with the former. The annals of medicine nowhere contain a more brilliant chapter than that relating to the introduction of malarial treatment in paresis, a disease in which there was formerly 100 per cent. of deaths, but in which it is now possible apparently permanently to arrest the disease in approximately one-third of cases treated and with material improvement of another third of the cases treated. While the treatment has been in vogue too short a time to make the definite statement that arrested cases are cured, it is none the less a fact that there are to-day in the state of New York several hundred cases of paresis which present no mental symptoms and which are apparently in as good health as ever in their lives and are successfully maintaining themselves in the community, often at a higher social level than previous to the onset of symptoms. When such results can be obtained in what was, but a few years ago, a hopeless mental disease, it does not appear justifiable to draw a distinction between mental and physical disease on the basis of a generally poorer prognosis in the former.

George W. Mills, M.D. (closing the discussion).—I am very appreciative of the discussion. I have not much that I want to say, except that there seems to be a misunderstanding as to the wording of the New York State law. It does not say *the* Superintendent of *the* hospital, but the Superintendent of *a* State Hospital, so that it is not mandatory for the Commissioner to be the Superintendent of the hospital where the patient is.

As to whether an assistant Superintendent can act, that would have to be determined by the appointing judge. The Mental Hygiene Act says that in the absence of the Superintendent the first assistant assumes his powers and duties, and that might be considered as giving him power to act. I think there would have to be a legal interpretation and that it might be an argument for appeal and reversal of judgment—I do not know. It is purely legal.

Dr. Steinach said I was a pessimist. I wonder if everybody thought I was a pessimist. I do not think I was near as pessimistic as Dr. Steinach when he talked about the two or three people he was certain never would recover. I talked about the ones that do get better; I particularly made an appeal for those that might get better.

These women should have more than a certain sum paid to the State to feed them and provide them with bed and clothes. I know from my years in the State Hospital that there are many so-called chronic cases that are entitled to more than they receive, and I do not think it is right to deprive those individuals of what I called the little niceties of life because of an illness, and no wrong-doing.

I am heartily in sympathy with Dr. Haviland's attitude in regard to the present law, particularly as it may deprive those patients of something which they ought to have. As Superintendents of State Hospitals, we should be allowed to retain the right to protect and get things for our patients, and not take things away from them. I do not believe it is a good law to make a Superintendent of a State Hospital serve on the commission—a Superintendent either of the hospital, or a hospital.

The question of annulment and children. I am told by a judge of the Supreme Court that by an annulment under this law the children are protected, and one does not have to have any concern from that standpoint. Certainly their standing would be as good as under any other annulment proceeding, and it is not like a void marriage. As I understand it, annulment is quite different from voiding a marriage.

The Law of Criminal Abortion

(Concluded from page 160)

In answer to Dr. LeWald's question in reference to the use of the *x*-rays in the production of criminal abortion, I daresay that the possibility is present. I can readily perceive that the time will come when someone will appreciate the effect of the rays on the reproductive organs and cause destruction of the fetus in the womb and the subsequent loss of the pregnancy. No case has thus far come to my attention.

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The Dose of Medicine*

Including a Brief Survey of the Origin of Drugs, the Development of Official Standards and Suggestions for the Improvement of Drug Regulations

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It is a very simple matter to measure out the indicated amount of medicine that has been purchased at the nearby pharmacy. It is almost as simple for the physician to remove from his case the liquid, powder, pills, ampule or whatever form the medicine may present and administer it to the waiting patient. But back of all this, simple as it may seem, is a long and interesting story.

The history of the use of medicinals follows closely the development of civilization and culture. History shows that a particular people have for a time led in the world's progress, only eventually to become stationary and usually decadent, the advance of civilization being then assumed by a younger community, which in turn eventually likewise has become stationary or decadent. Thus, during historic time, the leadership of the world has been in various parts of Asia, in northeastern Africa and in several centers of Europe. America in its short history of European settlement has developed so rapidly that it already occupies a position of great power and has contributed enormously to the progress of civilization. Notwithstanding this gradual progress, a recent writer has stated that primitive man's knowledge of medicinal simples was exactly like the drug phase of our modern therapeutics—extensive, if not intensive. Where it made mistakes it was (as in our own case) due to the cause which Kant assigns for all human error—the inveteracy of the *post hoc, procter hoc* tendency in the human mind.

In the beginnings of history, there were no physicians and no standards of medication. Herodotus records that in Mesopotamia, to which region historians are wont to ascribe the birth of civilization, the sick were brought into the market places to let those who passed by, that had been similarly afflicted, confer with them and advise them as to such treatment as they had found, or thought they had found, efficacious. In those days, when disease was regarded as the work of demons, many times drugs were administered to drive the demons out of the body. This appears to be an explanation for the administration of filthy remedies, such as the parts or excreta of animals, to disgust the demons. This idea of the etiology of disease has persisted, in modified form to be sure, almost if not quite up to the present day in the form of humoral pathology.

The Egyptian papyri reveal an extensive materia medica which today is duplicated, in extent at least, in the materia medica of old civilizations like China or Japan, or even in our own bulky pharmacopoeias. Yet in the 4th century B. C. the Greek physician Hippocrates, the "Father of Medicine," generally recognized as the greatest of all physicians, who instituted the first hand and intellectually honest study of patients, with the taking of case histories, the study of disease as a manifestation of nature rather than the supernatural, believed chiefly in assisting nature. Although he knew the use of many drugs, his plan of medical treatment was largely confined to such plain expedients as fresh air, good diet, purgation, tisanes of barley water, wine, massage and hydrotherapy.

It is claimed, and apparently with some reason, that the early Arabs and Greeks derived their whole system of logic on medics and chemics from the early Hindus and that there was actual importation of Hindu logicians, mathematicians and philosophers by the court of Greece, prior to Pythagoras. Both Hippocrates and Pythagoras, in the annals of their visits to India, describe the chemical compounds that were found at that time in the Hindu *materia medica*. There was continual exchange between Egypt and India, both as to philosophic ideas, and as to the material of the arts. These latter included indigo, turmerics and the yellow dye from the mango trees. Compounds of mercury and of gold for internal use were common to India and it was from these that their use was introduced into Arabia, Greece and later into Rome.

If it be true, that the birth of civilization was in Mesopotamia, it seems reasonable that it should have extended into the East quite as readily and even more so than into the West, particularly as the fertility of the eastern adjacent country was more favorable. In that event, it is equally reasonable that in the subsequent early interchange between East and West, the West should have received much of culture and learning from the East. To what extent these influences actually existed, we must leave to the historians of those early periods to decide.

The Greek Dioscorides, who lived about the time of the beginning of the Christian era, is the best authority of the ancient writers on the subject of the materials of medicine. In his treatise on *materia medica* he describes some six hundred plants, supposed to have medicinal virtues, and also many animal substances. Among these are roasted grasshoppers, for bladder disorders; the liver of an ass, for epilepsy; seven bugs enclosed in the skin of a bean, to be taken in intermittent fever; and a spider applied to the temples, for headache. On the other hand, certain of the medicinals which he records are not without value. His descriptions of myrrh, the fragrant gum-resin bdellium, laudanum and squill are selected as particularly useful. Moreover, it has been pointed out that no inconsiderable number of remedies, re-discovered in modern times, were referred to by Dioscorides, among which may be mentioned castor oil, male fern, elm bark, horehound and aloes for ulcers. He was the first writer to indicate means of detecting the adulteration of drugs. Pliny, who belonged to about this same period, leveled a reproach against the physicians of his time to the effect that they purchased their medicines from the *seplasiarii* (druggists), without knowing of what they were composed. We shall see that in certain instances this habit prevails even at the present day.

Among the Romans, about the same time, Celsus, a litterateur rather than a practicing physician and ignored by the Roman practitioners of his day, gave to posterity in the fifth book of his *"De re medicina"* a classified list of the drugs then in use, very much

* Presented before the Society of Medical Jurisprudence at the New York Academy of Medicine, November 12, 1928.

like a modern handbook of therapeutics.

Some one hundred and fifty years later, in the latter half of the second century after Christ lived Galen, the greatest of Greek physicians after Hippocrates, and the founder of experimental medicine. He was the most voluminous of all ancient writers and left for posterity fourteen books on therapeutics and thirty on pharmacy. Unfortunately, he did not, like Hippocrates, leave unbiased descriptions of his cases but only his miraculous cures. His name persists to the present day in the term "galenicals," applied to preparations of crude drugs, such as tinctures, fluid extracts, etc., which may contain one or several active principles, in contradistinction to chemically pure preparations, such as the alkaloids. With his death, European medicine failed to progress for something like fourteen centuries and our interest in the medicinals shifts again into Asia.

While Europe was passing through the medieval period of its history, the hitherto unlettered Arabs under the influence of the faith of Islam were progressing both in conquests and in the extraordinary assimilation of ancient learning and the development of new sciences and it was through them that the science of the Greeks, the philosophy of Aristotle and the medical teaching of Hippocrates were kept alive and handed on to posterity. The study of chemistry, medicine and pharmacy was pursued with particular eagerness. It was the Arabs who raised pharmacy to its proper dignity. There is evidence that the pharmacists were closely supervised and their medicines inspected. A priest at Alexandria named Ahrum or Aaron compiled from Greek writers thirty books, called the "Pandects of Physic," and these in turn were translated into Syriac and Arabic about A. D. 683 by a Jew of Bassora. The works of Hippocrates and Galen were for the most part translated first into Syriac and then into Arabic.

With the conquest of Spain, in the 8th century, the Arabic western capital, Cordova, became the chief center of learning, civilization and luxury in Europe and the study of medicine was pursued in the schools of Cordova and Seville. Educated in these schools of the Spanish Mohammedans, poor Arabs and Jews tramped through France and Germany, selling their medicines and teaching the monks and priests, in this way actually introducing the Arabic pharmacy into the Northern European countries. On the other hand, the medical school of Salerno, in Italy, was undoubtedly an important if not the principal link between the later Greek physicians and the present day teaching institutions, as, for instance, the universities of Paris, Naples, Oxford, Padua, Vienna, and others of later fame.

Frederick II, the Holy Roman Emperor and King of Sicily, probably the ablest ruler of the Middle Ages, who died in 1250, rendered a notable service to the generations to follow when he issued an edict regulating the practice of both medicine and pharmacy. Dealers and dispensers were alike licensed by the Medical School of Salerno and it was the duty of the physician to inform the authorities if he discovered any falsification of the medicines. He was strictly forbidden to enter into any arrangement with a druggist whereby he would derive any profit by the sale of medicaments, nor could he himself conduct a pharmacy. The pharmacist made his various compounds in the presence of two inspectors. If detected in attempting fraud, his property was subject to confiscation; if an inspector was found to be a party to fraud, his punishment was death.

At this period, educational institutions in Northern Europe were copied from Italian models, largely through the monks dispatched from the papal court. The drugs used were those of the ancients, procured from Greece, Arabia and India. Herbs must be gathered when the sun and planets were in certain conjunctions, and certificates of their being so gathered were necessary to give them reputation.

Since the dawn of civilization up to the present day, certain products of southern Asia and of the islands adjacent to the Asiatic shores have been held in high esteem. First of importance among these is the group of pungent and aromatic substances used extensively by the Europeans in the Middle Ages to flavor their meat and drink; but much in demand also have been certain antiseptic balsams and other plant products employed in medicine. In the middle centuries, Venice served as the connecting link between the eastern and western worlds in the traffic in spices, drugs and similar products, and rose to great commercial eminence.

The products from southern central Asia were carried by caravans over the Arabian desert to Egypt where they were held in warehouses for transportation across the Mediterranean to the Italian ports, especially Venice, from which they were distributed to the eastern, central and northern European countries, including England. Not only was all this slow and laborious, but in addition exorbitant customs were levied by the Sultan of Egypt so that the products from the East were very expensive by the time they reached the heart of Europe. This doubtless was one reason, and possibly the determining one, that led the Portuguese through two or more generations to explore the Cape route to India. It is an interesting side light, that presumably the same reasons led Columbus at this time to seek a western route to India by circumnavigating the globe, with the important result of his discovery of America. From the moment when the Portuguese under Vasco da Gama rounded the Cape of Good Hope and sailed into the harbor of Calicut, May 20th, 1498, the commerce of Venice was doomed. They were given a friendly reception by the traders of India and assured that they would be allowed to purchase spices and medicaments, although the Moors, who controlled the traffic from here to the Red Sea, seeing the ruin of their trade if the Portuguese were allowed to establish trade relations in the cities of India, sought to excite hostility towards the Europeans.

A curious feature of these first days of trade at Calicut was that each party to the transaction believed that he was outwitting the other. Da Gama had instructed his traders to be liberal in their dealings with the natives, to accept without protest all spices offered regardless of quality and to give good weight of the wares given in exchange, with the result that the natives probably worked off a lot of second grade pepper and ginger. On the other hand, the Portuguese obtained what they were after, namely, a large cargo of spices and medicaments to carry home, that they thereby might demonstrate to Europeans not only the practicability but even more the economic value of obtaining these products directly, rather than through the Egyptians. The venture netted the Portuguese a return of sixty to one. The Venetians were greatly perturbed when they heard of the success of the voyage via the Cape, as well they might be, for it meant the loss of the Venetian leadership in trade and the establishment

of Lisbon as the most important commercial City of Europe. To what extent, if at all, this affected the cost or the quality of the dose of medicine of European people, we have no direct way of knowing, but it is fair to believe that the effects extended even to the ultimate consumer. More than this, the more intimate contact with the East afforded a knowledge of drugs which before were unknown, as a consequence of which in the 16th and 17th centuries we find such substances as star anise, arnica, gamboge, catechu, columba and nux vomica added to the European *materia medica.*

During this period also, methods of adulteration were studied by the Europeans and information afforded which was of great aid in protecting against fraud.

Many names stand out as contributing to the development of drugs and their use in treatment before what we may term the modern European era. For several centuries before the era of modern pharmacopoeias, the "Antidotary" of Nicolas Myrepsus was the standard formulary, and from this the early dispensatories were largely compiled. He appears to have been a practicing physician at Constantinople, and, as he bore the title of Actuarius, it is supposed that he was physician to the Emperor. He is believed to have lived in the thirteenth century. Myrepsus, which means ointment maker, was a name he assumed or which was applied to him, probably in allusion to his "Antidotary."

This was the largest and most catholic of all the collections of medical formulas which had then appeared. Galen and the Greek physicians, the Arabs, Jews, and Christians who had written on medicine, were all drawn upon. A Latin translation by Leonard Fuchs, published at Nuremberg in 1658, contains 2,656 prescriptions, every possible illness being thus provided against. The title page declares the work to be "Useful as well for the medical profession and for the *seplasiarii.*" The original is said to have been written in barbarous Greek. The compounds collected in this "Antidotary" are of the familiar complicated character. Many of the titles are curious and probably reminiscent of the pious credulity of the period when Myrepsus lived.

No one man in history exercised such a revolutionary influence on medicine and pharmacy as the erratic genius Philipus Aureolus Theophrastus Bombastus von Hohenheim who lived in the 16th century and is known to posterity as Paracelsus. This latter name is believed to have been coined by himself, probably with the intention of somewhat Latinising his patronymic, von Hobenheim, and also perhaps as claiming to rank with the famous Roman physician and medical writer, Celsus.

The composition of Paracelsus's laudanum, the name of which he no doubt invented, has never been satisfactorily ascertained. Paracelsus himself made a great secret of it, and probably used the term for several medicines. It was generally, at least, a preparation of opium, sometimes opium itself. He is believed to have carried opium in the pommel of his sword, and this he called the "stone of immortality."

Next to opium he believed in mercury, and was largely influential in popularizing this metal and its preparations for the treatment of syphilis. It was principally employed externally before his time. He mocked at "the wooden doctors with their guaiacum decoctions," and the "wagon grease with which they smeared their patients."

Turquet de Mayerne, a Frenchman, and a favorite physician to Henry IV, but compelled to leave Paris on account of the jealousies of his medical contempories, exercised, in the early half of the 17th century, a considerable influence on English pharmacy. The Society of Apothecaries owed to him their separate incorporation, and the first London Pharmacopoeia was compiled and authorized probably to some extent at his instigation. He certainly wrote the preface of it.

Examples of the absurd and disgusting remedies still used in the practice of medicine are found in some of his medicaments. The principal ingredient in a gout powder which he composed was the raspings of an unburied human skull. He devised an ointment for hypochondria which was called the "Balsam of Bats." It contained adders, bats, sucking whelps, earthworms, hog's grease, marrow of a stag, and the thigh bone of an ox. On the other hand, Mayerne is credited with the introduction of calomel and black wash into medical practice.

Many collections of medicinals were made by ancient and medieval medical writers, some of which not only exerted a wide influence in their times but an influence that still is seen in our modern official pharmacopoeias. It cannot be stated with exactness when the adoption of official lists and descriptions of drugs began. The "Antidotorium" of the College of Medicine of Florence, early in the 16th century, and the "Dispensatory" of Valerius Cordus, official in the City of Nuremberg, are among the early official publications but they were probably made official subsequent to their publication. Possibly the first official pharmacopoeia issued under authoritative sanction was the Pharmacopoeia Augustana," official in the City of Augsburg, published in 1601. The London Pharmacopoeia, which appeared in 1618, was the first national publication of that character. Its preparation was under the consideration of the College of Physicians for thirty-three years and under preparation during the greater part of that time. Notwithstanding the time consumed and the stamp of official approval which marked its publication, it was disfigured by the inclusion of vile and unsavory ingredients which were retained through the first five editions. In the middle of the 18th century, Beberden so successfully ridiculed such nostrums that they rapidly passed out of existence. The effect was seen in the sixth edition, published in 1788. It went through ten editions, the last appearing in 1851, when it and the pharmacopoeias of Scotland and of Ireland were superseded in 1864 by the present British Pharmacopoeia which is now in its 5th edition, published in 1914. The first edition was singularly free from the medical atrocities which persisted from the folk-lore of primitive man till the middle of the 18th century. It aimed to contain "every definite medicinal substance which the Committee of the Council found, on careful inquiry, to be so far approved in practice as to be entitled to a place in a National Pharmacopoeia." In the last edition, the object is expressed "to afford to the members of the Medical Profession and to those engaged in the preparation of medicines throughout the British Empire one uniform standard and guide, whereby the nature and composition of substances to be used in medicine may be ascertained and determined." This is an expression of the modern view that the object of a national pharmacopoeia is to establish a uniformity of standard of drugs in actual use without directly putting the stamp of approval

upon their use. Likewise, it follows that omission of a drug is not necessarily a disapproval of its use, but may indicate that its use is not sufficiently general to justify its inclusion.

In our own country, as would be expected, the colonists of the 17th century brought with them much of the domestic knowledge and many of the usages of medicinals that were in repute in their mother countries, but of the physicains of the times, there was practically none among the colonists during the 17th century. Moreover, when it is further remembered that transportation between Europe and America in those days was uncertain and at the best a matter of months between shipments instead of days as at present, it is not surprising that the colonists turned to their environment to obtain such medicaments as were immediately available. In doing this they were influenced in no small degree by the knowledge and lore gained from the Indians. It is interesting to note the views of those primitive people with which the civilization of the times was thus brought into close contact. James Mooney, in his studies of the Cherokee Indians, has given us an interesting account of their folk-lore, relative to the origin of diseases and medication.

In the old days, quadrupeds, birds, fishes and insects could all talk and they and the human race lived together in peace and friendship. But as time went on the people increased so rapidly that the poor animals found themselves cramped for room. To add to their misfortunes man invented bows, knives, blowguns, spears, and hooks and began to slaughter the larger animals and to tread upon the smaller creatures. So the animals resolved to consult upon measures for their common safety. The deer decided that unless the hunter asked for pardon when he shot a deer, that the little deer, guided by the drops of blood on the ground, should follow the hunter to his cabin, enter invisibly and strike him with rheumatism, to render him a helpless cripple.

The fishes and reptiles determined to make their victims dream of snakes turning about them in slimy folds and blowing their fetid breath in their faces or to dream of raw or decaying fish, so that they would lose appetite, sicken and die.

The birds, insects and smaller animals likewise met and denounced man, the ground squirrel alone daring to say a word in his behalf, which so enraged the others that they fell upon the ground squirrel and tore him with their teeth and claws, and the stripes remain upon his back to this day.

When the plants heard what had been done by the animals, they determined to defeat their evil designs. Each tree, shrub and herb, down even to the grasses and mosses, agreed to furnish a remedy for some of the diseases. Thus did medicine originate, and the plants, every one of which has its use if we only knew it, furnish the antidote to counteract the evil wrought by the revengeful animals. Such is the belief upon which their medical practice is based.

It must be admitted that many of the plants used by them possess real curative properties, but it is equally true that many others held in equal esteem are inert.

It seems probable that in the beginning the various herbs and other plants were regarded as so many fetishes and were selected from some fancied connection with the diseased animal according to the idea known to modern folk-lorists as the doctrine of signatures. Thus, at the present day the Cherokee Doctor puts into the decoction intended as a vermifuge some of the red fleshy stalks of the common purslane or duckweed (*Portulacca alerocca*), because their stalks somewhat resemble worms. Likewise, yellow roots or flowers are used in the decoction for biliousness because of the color of the vomit. Strange as all this may seem to us now, it must be remembered that the doctrine of signatures had been endorsed by the renowned Paracelsous, in the center of European learning, only a few years before the opening of the 17th century.

In the course of time the haphazard use of plants led to the recognition of real virtues in particular plants and, as a result, these were accorded recognition as possessing especial value as medicinal herbs.

Thus, we find that the North American Indians were aware that arbutus was "good" for rheumatism; lobelia for coughs and colds; wild sage tea, golden seal, flowering dog wood, and prickly ash berries for fevers; wild ginger, ginseng, and euphorbia for digestive disorders; inhalations of pennyroyal for headaches; sassafras or violet leaves for wounds and felons; the root of sassafras and sarsaparilla for "cooling and purifying the blood"; and podophyllum for its laxative action.

Even to the present day, the use of medicinal treatments derived from the Indians is found in certain domestic practices. I venture to believe that few who were born and bred in New England rural districts do not recall the application of cobwebs to cuts to stop hemorrhage, probably quite unconscious that they were applying Indian lore.

We have seen that in Europe, during the 17th century, the influence of the myths of primitive man continued to exercise a considerable influence upon medical practice, yet even by the European standard, medical practice among the colonists was of an extremely low order. In the absence of accredited physicians, quacks abounded, since any one with a superficial knowledge of medicine was at liberty to put out his sign. It was quite the thing for a so-called doctor to make his own physic and not infrequently his residence was appropriately known as the "doctor's shop".

During the 18th century, with more stabilization of colonial life, there was a definite improvement and a rapid approach to the standards of medical practice of England. Accredited physicians began to locate in America and, with increasing transportation across the water, European drugs and instruments were made available. The independence of the medical profession, if, indeed, the profession of any one community can ever be said to be independent of other centers of civilization—but at least, we may say, the consciousness of responsibility—as a general condition among American physicians, followed closely the political independence of the colonists, so that by the beginning of the 19th century we find regulation of the practice of medicine, not by the civic authorities but by medical societies to whom was entrusted the regulation of medical practice.

Likewise, it was the medical societies and medical schools that had come into existence during the 18th century that assumed the responsibility of drug standardization.

Prior to 1820, European Pharmacopoeias were chiefly relied upon as authorities upon drugs. A movement, started in the Medical Society of the County of New York in 1817, led to the establishment of district conventions in four different sec-

tions of the United States, followed by a General Convention which resulted in the publication, December 15, 1820, of the first United States Pharmacopoeia, in both the Latin and English languages. It marked an independent drug standardization for America. As an outcome, since that time a National Pharmacopoeial Convention has met every ten years for a revision of the Pharmacopoeia which is now in its tenth edition. Needless to say, the Convention of 1820, representative of some thirteen Medical Societies and schools, has expanded into a body of delegates from some 130 societies and institutions, national and local, representing both medicine and pharmacy, and including as well the Federal Government services. In 1900 the Convention was incorporated and today stands as a thoroughly organized body fully capable of meeting the great responsibilities which its organization imposes upon it and not surpassed, if indeed equalled, by any similar organization in the world.

It is an interesting observation that, prior to the publication of the U. S. Pharmacopoeia, the medicinals derived from the American Indians, as judged by lobelia and podophyllum, did not appear in the *materia medica* of the British, but lobelia was included in the lists appearing about 1836 and podophyllum in the first edition of the British Pharmacopoeia, published in 1864.

Notwithstanding the broad scope of the U. S. Pharmacopoeia there were drugs, particularly in the form of more or less established formulae, that remained unofficial, yet required, in the interest of uniformity, some authoritative standardization. After a time, these had become so numerous that, in order to avoid confusion through the existence of minor and unimportant details, the American Pharmaceutical Association in 1888 established the National Formulary, supplemental to the U. S. Pharmacopoeia. This work is now in its 5th edition. Today these two works constitute the highest standards of authoritative treatises on drugs and drug preparations. With the passing of the Food and Drug Act of 1906, the drug standards of these two treatises were made the legal standards of the Federal Government.

There are, of course, many drugs outside of the U. S. Pharmacopoeia and National Formulary. Those that have failed of admittance because of their relatively little value and limited use by physicians, or once admitted that have been dropped, need little consideration. On the other hand, there is a constant production of new drugs, some of no real merit while others have a very considerable value and even are destined eventually to become official. The American Medical Association, through its Council on Pharmacy and Chemistry, has very ably undertaken in its annual publication "New and Non-official Remedies" to separate the wheat from the chaff among these non-official remedies, not including so-called patent medicines. Through the creation of these three regulatory publications, American physicians of today have at their command information regarding medicinals far surpassing anything heretofore known in the history of the world.

From what precedes it appears that today the dose of medicine means a very different thing from what it did to primitive man, to medieval civilization or even from what it meant to the civilized world of a hundred years ago. To primitive man, it meant something supernatural, to drive demons out of the body, or a fetish which by its magic powers would in some mysterious way accomplish the desired cure. Even at the present day, it cannot be said that the lay public has wholly freed itself from this point of view. Nevertheless, I believe we are justified in concluding that, during the last few centuries, such points of view have been gradually eliminated from the pharmacology of the profession of medicine and that physicians of today accept the teaching of Hippocrates that disease is a manifestation of nature and is to be treated as such. This, as well, includes the treatment of mental disease by appropriate treatment of the mind. Further, we have seen that in many instances medicinals themselves have been standardized, so that they represent the particular potency, both as to kind and degree, which they have been demonstrated to possess. This is a feature of the age of scientific medicine in which we are living.

In spite of this Utopian idealism with which we are wont to credit ourselves in our academic consideration of therapeutic progress and attainment, its full realization is marred by the fact that the development of the human conscience has not kept pace with the intellectual advancement of the human mind. In calling attention to present glaring defects in the application of our knowledge of therapeutic agents that today threaten our dose of medicine, I will cite a few specific illustrations.

About a year ago, there appeared, in a drug trade journal, certain information relative to the treatment of William McKinley, President of the United States, subsequent to his being shot in Buffalo, New York, on September 6th, 1901. As a part of the treatment of the wound, it was desired to use aristol, an iodine dusting powder. Accordingly, a prescription was written for "aristol" which was filled at a nearby drug store.

Eight days after being shot, the President died. In the check up of the agencies used in his treatment, it was discovered that instead of the iodine dusting powder, aristol, the prescription had been filled with a cheap substitute, of the same color but without any germicidal or antiseptic value whatsoever. The substitute was oxide of iron.

Why did the druggist who received the prescription for "aristol" supply a substitute instead of the original? He undoubtedly did so because it would yield him a larger profit. Whether the goods as purchased from some vagrant, irresponsible salesman at a lower price were genuine "aristol", the chemical equivalent of "aristol" or plain talcum powder, the druggist could not tell and had no means of knowing. His only safeguards were the label on the package, and the character of the man who did the selling. Behind the source of supply there was no man or house of responsibility and demonstrated integrity.

This illustration does not stand alone. Substitution occurs to the extent, annually, of thousands and possibly millions of dollars worth of drugs, and particularly drug specialties. The reason that I emphasize drug specialties is because they offer a particular temptation for drug substitution.

The chemical name of aristol is thymol iodide. When the value of this substance, as a dusting powder upon wounds to destroy infection, was discovered, the discoverer was rewarded by the United States Government by the granting of patent rights under which for a given period the discoverer had the exclusive right to the manufacture and sale of

the product. As a further reward, he was granted for a time by the U. S. trademark the exclusive right to the name under which his particular brand of thymol iodide was sold, namely, aristol. When, then, the patent rights had expired, and other brands of thymol iodide could be put upon the market, the reputation of the discoverer's particular brand of thymol iodide, namely, aristol, which had been acquired during the life of the patent, continued to have a certain value from the use of the brand name, protected by trade mark. Under such circumstances, with the product known to the consuming medical public, and possibly to a certain extent to the general public under its protected name, it commanded a higher price than newer and less well known brands or even then thymol iodide, as such. Hence, the temptation to substitute cheaper brands of the product for the older and better known brand, a temptation that went a step further in the incident just related where a totally different and a worthless substance was substituted.

I fancy the position taken by the public authorities charged with the responsibility of enforcing law, or at least the practice which they follow to a considerable extent, is to leave to the manufacturers of drug specialties prosecutions for the protection of their individual rights, perhaps on the ground that the public does not suffer or materially suffer by the substitution for one brand of product, another, substantially the same. However, granting the correctness of their position from that point of view, it seems to me that under the general principle of dishonesty in trade such substitutions may rightly receive the attention of local, State or Federal authorities, especially as they open the way to substitutions of a more serious nature. Would not a simple general law against dishonesty in trade, the identical law being both Federal and State, covering toothpicks, two tine forks, ten penny nails or whatever the commodity, be quite as efficient and much simpler than our many special laws under which particular commodities are now protected?

A second class of defects in the application of our knowledge of medicinals is illustrated in the present day drugs offered for intravenous administration. As we shall see later on, the group of drugs known as biologicals and arsenicals are under license from the U. S. Public Health Service, with inspection of the manufacturing plants and even to an extent with standardization of the individual batches of biologicals and arsenicals produced. The intravenous products in general stand in marked contrast to this. In view of their administration directly into the blood stream and of the possible serious consequence of such administration, if the products are improperly prepared, it would seem as though their production should be most carefully controlled. As the matter now stands, any person no matter how ignorant, under conditions no matter how unsuited, can prepare and sell through the drug trade to physicians solutions purporting to be suitable for intravenous injections with no safeguards whatsoever. The result of this has been that different brands of a given drug so prepared lack uniformity so that the dose of one that could be safely administerd would in the case of the second brand bearing the same drug name and indicated dosage, produce marked reactions and even threaten the life of the patient. There is need of control of the materials which enter into these products, of the methods employed and of the responsibility of those engaged in their manufacture.

It has been suggested that one reason why such products up to this time have been kept outside the pale of governmental control is because of the uncertainty of their value in many instances and of the desire to avoid giving to them the dignity of official recognition. This hardly seems to be a valid reason why now and again patients should be subjected to the severe and dangerous reactions which result from their administration. I feel sure that the responsible manufacturers in this line, as in all others, will welcome the control of production that will eliminate from competition products of an inferior quality.

We have seen that the drugs listed in the U. S. Pharmacopoeia are to a considerable extent standardized and that these standards are both official and legal. It is probably expecting too much that such standardization should be one hundred per cent perfect, but at least the aim of standardization, so far as practicable, surely cannot be short of this. Hence suggestions for improvements should both be helpful and give support to efforts to attain the highest mark. The particular drug to which I will refer in illustration of a third class of defects in present day standards, and which is illustrative of deficient pharmacopoeal standardization, is the arsenical neoarsphenamine, the most widely used arsenical employed today in the treatment of syphilis. It will be recalled that prior to the war, the supply of this drug consisted, both in European countries and in the United States, of the brand neosalvarsan, manufactured in one factory in Germany, in close touch with the inventors. Hence, it is fair to presume that the product was uniform in composition and that it conformed closely with the original product, No. 914, discovered, studied and given to the world by Ehrlich.

With the onset of the war, a different situation arose. The German supply of the drug was no longer available and, as regards the United States, it became necessary that it be manufactured in this country. Much the same situation was created in each of the anti-German European countries. The details given in the patent specifications for neosalvasan were inadequate for the manufacture of these domestic brands of neoarsphenamine, so that each manufacturer had to supplement by his own ingenuity the imperfect information available, in the endeavor to make a product which could safely and adequately replace the German product. Since products of this class are necessarily toxic, it became necessary to establish a basis of testing and standardizing, so that the required dosage in treatment could be administered with safety.

In the United States, under an act of Congress passed in 1902, "To regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate interstate traffic in said articles and for other purposes", the enforcement of which was entrusted to the Secretary of the Treasury, the establishment of standards of quality, the issuing of licenses for manufacture, and the regulatory approval of neoarsphenamine actually manufactured became the duty of the U. S. Public Health Service, created within the Treasury Department. The U. S. Pharmacopoeia standard of neoarsphenamine is that it shall conform to the standard of the U. S. Public Health Service. This standard consists of tests for (a) stability, (b) solubility, (c) arsenic content to the amount of 19 per cent, with a variation above this figure up to the theoretical arsenic content of

neoarsphenamine, and (d) relative non-toxicity, 240 milligrams per kilogram of animal, injected intravenously into rats in 4 per cent solution, being tolerated for a period of 6 days observation. No test of the therapeutic efficiency of the product has been or is now required.

The significance of this becomes apparent by a consideration of the similar situation in England relative to the English domestic brands of neoarsphenamine, as determined by physicians of the Department of Biological Standards of the Research Council of England and reported in *The Lancet*, April 22, 1922, by Dr. H. H. Dale and Major C. F. White. It appears that their examination of domestic brands of neoarsphenamine revealed two distinct classes of this type of arsenical, those whose solubility and toxicity were close to the orginal German brand and those that had the advantage of the German brand in being less toxic and more freely soluble. During the war, the demand for the latter class had grown very rapidly, so that manufacturers had aimed to produce the less toxic and more freely soluble variety, and by the end of the war it had become the class of general use. However, when, under peace conditions, it became possible to follow more thoroughly the effects of treatment, the curative action of the less toxic and more freely soluble neoarsphenamine came under serious suspicion of being inadequate. This led to a study, both in the laboratory and clinically, of the relative therapeutic efficiency. It happend that in America, C. Voegtlin and H. Smith had recently described a laboratory method of measuring the therapeutic efficiency by the dosage required to cure animals infected with trypanosomes, organisms similar to the *Treponema pallidum* which is the cause of syphilis. By the use of this method, the investigators of the Medical Research Council of England found that the dose of the less toxic and more freely soluble brands of neoarsphenamine required to kill the trypanosomes of the infected animals was two or three times as great as the dose needed of the brands corresponding to the original German product. Similar conclusions resulted from the studies of the clinical use of the two classes of neoarsphenamines, the results of both experimental and clinical studies leading to the conclusion that the less toxic and more freely soluble products were of decidedly inferior therapeutic efficiency. As a result, the experimental method of measuring therapeutic efficiency was put into routine use in the Medical Research's Department of Biological Standards, in addition to the testing of individual batches of neoarsphenamine for the absence of undue toxicity.

This whole matter came to the attention of the League of Nations at a conference in or about 1923, subsequent to the publication by the investigators of the Medical Research Council of England. The League recognized the lack of uniformity of these products and expressed the desirability of having standards prepared by Kolle, Ehrlich's successor at the George-Speyer Haus, Frankfort am Main, and Professor Voegtlin, of the U. S. Public Health Service, to which production throughout the world would conform.

Nor does the matter stop here. Dr. John A. Kolmer of Philadelphia, who writes authoritatively on this subject, in his treatise "Principles and Practice of Chemotheraphy," published in 1926, states, p. 911: "Today there exists a remarkable variation in the parasiticidal effects of different brands of neoarsphenamine employed in the treatment of syphilis. I have repeatedly found samples on the market unable to cure syphilis of rabbits in doses as high as 0.045 gm. per kilogram whereas the average single curative dose should be 0.020 gm. per kilogram of weight for these animals. It is true that repeated doses may dissipate the obvious lesions of syphilis in human subjects and relieve some of the symptoms, but I doubt that the effects will be permanent and I believe that a high incidence of tertiary syphilis will be observed in the next ten to twenty years among syphilitics who believed themselves cured by series of injections of some brands of neoarsphenamine being employed today in the treatment of acute syphilis."

The same author further states: "I regard this situation as a serious one because I believe physicians and patients are not infrequently being deluded and I hope that the Hygienic Laboratory of the Public Health Service will establish a standard of parasiticidal activity for neoarsphenamine just as it has long since done for toxicity, with wonderful and praiseworthy results." To Dr. Kolmer's statement, I might add that there is need of a more exact definition of neoarsphenamine in the United States Pharmacopoeia.

With time defects in drug standardization will be corrected but what of drug substitution, which exists today to an alarming extent? How shall we deal with that problem, so as to insure that our dose of medicine shall be what it is thought to be?

It will naturally occur to us, first, as far as needed, to enact more stringent laws; and, second, to exercise more vigilance in their enforcement. We have seen that this method of dealing with the situation has been in operation, certainly for a thousand years or more, with the result that we are forced to conclude that bootlegging in drugs is about as hard to control as similar activities in certain other commodities with which I assume most of this audience, and the public generally, is even more familiar.

At the outset of the consideration of this phase of our subject, I ventured the remark that the development of the human conscience has not kept pace with the intellectual advancement of the human mind. Fortunately, this is true only of certain individuals. In the ultimate analysis, moral behavior is not determined by law but by qualities of character. Those individuals whose ideals are so perverted or whose sentiments to attain their ideals are so weak and whose sentiments of self regard are so deficient that they are unable to resist the importunities to be dishonest, are unfit to assume professional responsibilities, whether they be in pharmacy, medicine or law.

The solution of our problem, then, is twofold. First, to require a higher standard of character for admission into and the practice of our professions; and, second, to so stress the ideals of our professions, both by precept and example, that the moral conflict which temptation presents will fail to dim those ideals and there will not develop a weakness in the striving for their attainment. Until there is a stronger sentiment against dishonest practices within the professions themselves, there is little hope of correcting the evils within them.

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DISCUSSION

PROFESSOR H. H. RUSBY, Dean of the College of Pharmacy, Columbia University, New York:

This most interesting paper by Dr. Smith has covered such a vast field that I shall not undertake to discuss the whole of it, but shall confine myself to two or three subjects with which I am especially familiar, although I am interested in the whole. I do not think it is too much for me to say that I could stand here for an hour and discuss any one of several subjects which Dr. Smith has brought up, but I cannot undertake to do more than touch upon some of them. His reference to the aboriginal Materia Medica and the methods used by savages interested me greatly. As I sat here listening I cannot tell you how many interesting personal experiences passed through my mind. I will tell you of one which interested me especially. I once found an Indian boy who was suffering from an arrow wound in his abdomen; he was threatened with peritonitis. His father objected to my method of treating him. He placed his mouth over the back of his hand, and indicated that I should suck the wound in the abdomen of the boy. Those medicine men carry with them a little white root which looks very much like a worm. This they put in their mouths, and after sucking the wound, take it out of their mouths, and say that they got it from the wound; that this was the cause of the trouble, and that the patient will now recover.

Then the doctor spoke of substitution and adulteration. I suppose I could write a book as large as the Pharmacopeia, simply recording my experiences and my observations in the matter of adulterations. One time I was in the office of a drug miller who had a very large business, when a salesman came in. He had a little medicine case containing about 24 two ounce bottles. Each bottle contained the same thing: ground olive pits; but each bottle had the powder stained of some special color. The idea was that these olive stones, ground and stained in this way, were adapted to the adulteration of every powdered drug. That man went around selling these, and he was the agent of a man whose business was simply to grind up and color olive stones for that purpose.

I have learned that salicylate of magnesia is different from any other salicylate in its effects. It is very superior to any other, and I have advised many people to use it, and with excellent results. I recently sent a rheumatic old lady some, and she was so greatly improved that she wanted more. She went to her druggist, and he gave her salicylate of soda, which she brought to me, as she had not been getting the same good results as with the salicylate of magnesia.

Now I want to speak to you on the subject of dosage. One of the very first experiments in chemistry that I ever witnessed, when I was in high school, was when my teacher took a basin of snow, and after pouring on it some sulphuric acid, stirred it with a test tube containing water. Soon the water in the test tube boiled. He took another basin of snow, poured sulphuric acid on that, stirred it, and in a short time the water froze. It is a very simple experiment, but it shows how small a change can produce an entirely different result. I have no doubt that all of you here know of cases in which you can give one dose of a drug and receive an opposite result from that in which you give a different dose. I remember that when I studied medicine, away back in 1884, I had already studied medicinal plants extensively, and knew considerable about materia medica; in some things more than my teacher. I recall one teacher quizzing us about ipecac, and I stated that one of its properties was that it might act as an anti-emetic, when given in small enough dose. He shook his head sadly. "No, young man," he said, "that may do over there in the Homeopathic College, but it won't do in this school." Nevertheless, the doctor was wrong. You all know what will happen in the case of digitalis; what enormous doses you give now that were formerly considered poisonous, and you know that although such doses may cure one man, they may kill another. This matter of dosage has troubled us enormously in revising the United States Pharmacopeia. I first went on the Committee in 1890, and was in that Convention, which I think was one of the most important, if not the most important Convention for the revision of the Pharmacopeia ever held. At that time, the question of the chemical standardization of drugs came up. The older people here present will find themselves familiar with the conditions of that time, but the younger ones will find it hard to visualize the confusion that then existed. Every pharmacist manufactured his own fluid extract, and there was as great a difference in pharmacists in those days as there is now. In the schools, when the students studied drugs, they never saw them; the Professor read a description of the drug, and they attended two courses of lectures, that is, the same short course repeated. Then they went out and practised pharmacy, and these were the men who selected and bought the drugs, and made their fluid extracts and tinctures out of them. In 1883 I became connected with Parke, Davis and Company. I spent a great deal of time in their chemical laboratory, under that beloved man, the late Dr. A. B. Lyons. He was a great man, and still better, a good one. Dr. Lyons was much interested in this matter of irregularity in the strength of drugs. We had many cases brought to our attention in which the drugs put out by Parke, Davis and Company had poisoned somebody. Why? Because the patient had been taking a certain preparation, manufactured by some pharmacist, which was nearly inert, so that he had to take enormous doses to get the effect. Then the pharmacist would change his stock, taking the stronger and properly made preparation, and the patient, taking the same dosage as before, would be poisoned. There were many such cases that came to us. It seemed as though that should not continue. Dr. Lyons said "Why not standardize these preparations by assaying? Why not find a method for assaying these preparations after they are made, and never let them go out unless they contain the proper amount of active constituents?" George S. Davis, our manager, jumped at that idea, and they got out a series of preparations which were called "normal liquids". What a furor that caused! You cannot imagine what a bitter feeling existed among the retail pharmacists, who thought that their business was going to be taken away from them. They had no facilities for assaying their drugs, and thought that if this idea prevailed, the large manufacturers would be the ones to prepare medicines thereafter, and that their business would be gone. I went down to the Pharmacopoeia Convention in May of 1890, determined to put this improvement over. I was told that some of the retail pharmacists were after me with shotguns, figuratively speaking! No one expected that our resolution would go through. I hardly believed so myself. I had just become professor in the New York College of Pharmacy, and you can imagine how I felt at the prospect. I told my wife that when I came back I would probably be out of a job, because I could not stay in the College in the face of this great opposition. Happily, my fears were not justified. The convention fought for two days, and the late Dr. Horatio C. Wood made the final speech that clinched the argument. A majority of one vote carried that great question, and standardized drugs went into the Pharmacopoeia. Now, every Pharmacopoeia in the civilized world is based on that principle. At a later convention, it was proposed to provide for biological standardization. This was voted down in the forenoon by a great majority, but when we returned from luncheon the question was reconsidered and this improvement also was put through. All these things come back to me now with tremendous force, because I have been through them. I was a part of them.

The question of introducing doses into the Pharmacopoeia was brought up. I do not remember which Pharmacopoeia first introduced doses, but previous to that time, the pharmacist had nothing to guide him in dosage. Young physicians also often forget their doses, and find it convenient to go to a Pharmacopoeia. Although at best, the average dose in the Pharmacopoeia is not very instructive, yet there is a great advantage in having it there. The case is quite different in regard to maximum doses. Every time this book is revised, we meet a tremendous demand from pharmacists that we introduce maximum doses. You will see this next year, when the convention meets to appoint its committee. It is the pharmacist who insists on our taking this course. If a physician makes a mistake in dosage—you would be surprised to know how many they do make—one of the most important duties of the pharmacist is to prevent resulting fatalities. He is equally responsible with the physician if he allows a mistake to go through. Some students have little idea of dosage. I recall one examination, in which I asked for the largest safe dose of spiritus frumenti, and one of the students replied, about a quarter of a minim! What the pharmacist wants is to save himself from risk by looking in the Pharmacopoeia for the maximum dose, and this is quite impracticable. Even a maximum dose may often be exceeded by the well-informed physician, while in another case, it may be unsafe. If the Pharmacopoeia became responsible for naming the maximum dose, its Committee of Revision would become liable for any accident resulting. No committee would be willing to assume this risk, and maximum doses will never be introduced into this book.

I agree with Dr. Smith that there has been a tremendous advance, but we have not reached Utopia yet. There is still a great deal to be done. I also agree with him in his idea that the greatest duty of the teacher of medicine or pharmacy is to teach character to his students. I have been at it for forty years, and I have never failed to make this the most important

part of my teaching. I have had some very interesting experiences in this particular work. A young man once came to me and said, "Professor, you do not know what you once did for me. You saved me from a terrible temptation. I was clerk in a pharmacy, being through with the first year of my pharmacy course and nearly through the second. If I did not get through that year, I would never be able to go any farther, as I was wholly dependent on my salary. One day a prescription came down to me and we did not have one of the items called for. I took it to the boss and asked what I should do. He said, 'Put in such-and-such a thing.' I said, 'But that is substitution.' He said, 'Never mind, put it in.' I went back to my desk, but came back and said, 'No, I don't like to put up this prescription with something that is not called for.' The boss said, 'Young man, when I tell you to do it, you do it.' After thinking it over, I went back to him and told him I would not. He told me that if he told me to do it, I was not responsible, but he was. But I still refused. Then he said, 'All right, I will do it myself, but I want to see you Saturday night.' The young man supposed that he was going to be dismissed, and that this would end his career, but he was determined to follow the teaching that I had so often given the students, and concluded that nothing more was to be said. Saturday came, and the boss said, "Young man, you have taught me something. I have been thinking a great deal about this matter, and of your refusing to fill that prescription, and I want to tell you that there will never be any more substituting in this drug store as long as I own it." I hope we can all win young students in medicine as well as in pharmacy to take this same attitude.

C. N. Myers, Ph. D. It is a pleasure to have this opportunity of saying a few words in regard to the suggestions offered by Dr. Smith, and also about the suggestive ideas which he has presented. I am particularly interested in them from the point of view that I have been associated with drug standardization for the last 20 years, and I feel there is something which is of vital interest to every individual concerned with standardization, and that is the feeling of everyone who is going to participate in the writing of a prescription, or the filling of it, or the patient who is to receive it, that these requests be carried out with integrity. In the paper presented by Dr. Smith there were certain points which were particularly interesting to me. One is the reference to the mythology of the ground squirrel and his stripes. I am not so sure that the squirrel has not come back to plague us, because we know that the squirrel is responsible for the transfer of Rocky Mountain spotted fever, and plague, and possibly is an important factor in the tularemia situation in the far West, if not here in our own locality. It is necessary that we have standards of medication, and with these standards we must have the proper means of enforcing them. There are two factors which are necessary. There must be a well defined law, and a careful definition of the substances involved, as illustrated in the neo-arsphenamine situation in which the product is not clearly defined, leading to a series of heterogeneous products on the market. On the other hand, there must be co-operation on the part of those who assist in the carrying out of these rules. If there is no co-operation, the principles of this Utopian idealism will not reach any satisfactory conclusion. For the determination of standards, we have three agencies, the United States Bureau of Standards, the United States Public Health Service, and the United States Department of Agriculture. Each state should have a corresponding type of standards or of societies or institutions which will carry them out. Then we must have societies which are interested in the type of school where pharmacy is taught on the basis of honesty, as well as in the individuals who are learning the drugs. Without this co-operation there is bound to be failure. The Food and Drug Act brought about a very important change as far as the adulteration of foods and drugs was concerned, and personally I know they have their hands full at the present time trying to cover as many adulterated drugs as possible, but we must not forget that the Food and Drug Act, which is in the hands of the Federal authorities, can only carry out their activities in relation to those drugs or products in which there is traffic between the various states. If a drug is manufactured within our own State, and not sold out of the State, they cannot interfere, unless that drug is taken out of the State; therefore the necessity for a State Law. Then we have drugs which are manufactured within municipalities. The municipality can likewise render a great benefit to the patient and the physician and everybody involved by the regulation of standards within its midst.

Dr. Smith mentioned the great variety of intravenous drugs which has been put on the market. I believe that anything which can be put in solution and put into an ampoule needs just as much consideration from the point of view of prevention of adulteration as any other drug which comes within the Food and Drug Act or the United States Public Health Service activities.

His discussion on the question of arsenicals likewise is a vital one. The United States Government has failed to take up the important suggestion offered by the British Research Medical Committee in which they point out that there are several varities of neosalvarsan. There may be a variation in therapeutic activity amounting to as much as three times in various drugs available. One dose of neosalvarsan may be equivalent to three times as much as another drug, weighht for weight. If the physician desires to cure syphilis by means of the arsenicals, he expects when he buys an ampoule of that drug he is going to get a dollar's worth of therapeutic activity in that ampoule. If he is not, that particular type of drug should come under the regulation of the United States Government which licenses the drug, and it should require that the therapeutic test be employed in order that the proper relation between toxicity and therapeutic activity should be attained. It is a well known physiological law that drugs of low toxicity have a low therapeutic activity, and this is true in the case of the arsenicals also. The question of substitution comes up. We have known that the arsphenamines are acid in nature, and if injected in the acid condition, they will produce death in eight to twelve hours. Frequently the druggist does not have neosalvarsan on his shelves and an ampoule of arsphenamine will be sent. The nurse does not know the difference between arsphenamine and neosalvarsan; one is acid and one is alkaline. One can be given without alkalinization and the other requires it. There are several hundred deaths a year through the substitution of material of that kind, and there should be a demand for the standardization of the therapeutic dose of the arsenicals. Furthermore, there is a necessity for co-operation between individuals interested in securing better laws, and there should be laws, federal, state, and municipal, which will enforce the suggestions brought out in Dr. Smith's paper, that there should be no substitution when a prescription is written for a definite article; that there should be no adulteration, and that we should have a dollar's worth of therapeutic value for a dollar's worth of goods.

Alfred S. Ommen, Esq.: This paper has been startling to me. It takes up a subject of which lawyers are not cognizant, as to what is going on with reference to substitution and adulteration of drugs. It recalls to me an experience which I looked upon with great surprise at the time it happened. A physician prescribed some drugs when I was ill, and said to my wife "Where are you going to have the prescription filled?" She asked why. He said that it was very important to go to a drugstore where we were quite sure to get the drugs prescribed. My wife said that she did not understand. "Well," he said, "there are not a great many drugstores in New York that will give precisely the medicines that the doctor prescribes; they often adulterate them, or they substitute something they have on their shelves for what is specified. Several of the drugs in this prescription are not ordinarily carried, and I recommend that you go to ———, as I think that is a drugstore where you will get what I prescribe."

That was an amazing statement, because I think the average person in New York has the conception that if a doctor prescribes a drug, and you go to a corner drugstore, you will get what he prescribes, and it would be very startling information to the people of New York that not always, and perhaps not regularly, do the druggists give them what the doctor prescribes.

Drugstores are getting to be rather a joke in New York. I remember a very interesting little talk by Beatrice Herford the other day which I enjoyed very much in which she told of a woman who went into a store, and said "Is this a drug store?", and the man said it was. She said that she saw a lot of toys and beads in the window and she did not know if it was a drug store or not. She asked where the drug department was, and was told "Down that way". She went down that way, and said, "My little girl has cut her finger, and I want a little bottle of iodine." The clerk said, "We sell jewelry at this counter." She asked "Where is the drug department?", and he replied "I think it is down that way", so she went on further, and said to the one in charge, "My little daughter has cut her finger, and I want a little bottle of iodine." He said, "No, we sell instruments here, but I think the drug department is down that way." She went on and asked where the drug department was in that store, and the young man said, "I have only been here three days, and I have not seen it yet, but if you go down that way, I think you will find it." So she went on, and the clerk said "This is a restaurant, we sell soda water and sandwiches." She asked "Where is the Drug Department?" He said "You walk back through that door, and there is a subway entrance, and near it you will find the Drug Department." She said "I think I will take the subway and go over to Brooklyn and get the iodine." That is about the situation which exists in the drugstores in New York.

Seriously, I think it is a dreadful thing for us to learn that

through substitution or adulteration 200 or 300 people die every year. It is a most extraordinary thing. It seems as though a statement of this kind should not be made. I might say on the question of law that any law the legislatures might enact, it, if in the interest of proper drugs and in the interest of having druggists give what the doctor prescribes, would be absolutely constitutional, because there is not a court in this state or in any other state that would not hold that any such law was within the police power of the state, and that the state had a perfect right to enact any such law that would be for the safety and the health of the people.

T. C. CHALMERS, M. D.: I have been a member of this Society for many years, and know how much the Society owes to Dr. Smith. I have seen him speak before you, and know what he thinks about the Society, and what he does for it. I think that we owe more to this paper, and this paper has brought up more important subjects, than any other paper which has been given here for a great many years. He has taught me one thing, belonging to that old school of allopathic medicine as I do, the son of that man who belonged to it before the schools split. I did not know that the Indians were all Homeopathics, because of their use of lobelia. He has brought up the question of intravenous injection. Has it occurred to you how your morning mail is filled with different advertisements of manufactured intravenous medication each day? I know when the Queensborough Hospital was first opened, and I was the only original appointee on the staff at that time, there was a time during the infantile paralysis epidemic when we were approached by a certain manufacturer of intravenous medication to use his product. Coming of an old-fashioned medical family in New York, and remembering that my father had told me when I was a boy to accept only that which has been tried by the best men and accepted by them, I have always made it a rule to use only certain types of drugs and those manufactured by certain manufacturing pharmacists as far as possible. Substitution has been going on, as Dr. Smith has told us, from the very beginning of medicine among the ancients. Substitution is going to go on. The medical men in this room, the older ones, will remember how much less frequent it is becoming for a druggist to call up and say "Doctor, I have not this preparation; may I use another?" You can give him permission to do so, or tell him to get the one you have prescribed. A physician recommends a drugstore. He says to his patient "I want this prescription filled at such and such a drugstore." The flash comes into that patient's mind immediately that there is some ulterior motive; perhaps they do not know the physician very well, and they think that he has some financial interest in that prescription. It is hard for the public to get away from the feeling that the doctor has some pecuniary interest where he recommends a certain drugstore. That of itself can be helped by an open discussion such as we are having this evening.

ANANT M. GURJAR, PH.D.: The reference which Dr. Smith made to the Hindu influence upon the Hellenistic development of the science of medicine is very interesting. As a matter of fact, it is in keeping with the thought of to-day that the early Hindus contributed much to the civilization of mankind. According to data now well established, the Saracens, Greeks, and Romans were materially influenced by the early Aryan culture. Just as we have in Hindu literature a great many names in the sciences of astronomy, mathematics, chemistry, and physics, so in the department of medicine we have at least three memorable names upon whose works is based the entire structure of Hindu medicine. These names are Charaka, Wagabhatta and later Nighanta. We may designate them as physician, surgeon, and pharmacist. The works of these men were so significant that the book of Charaka was translated into Arabic in the 8th century. It is also known that in the city of Bagdad Hindu physicians were in charge of the Saracen hospitals. You will remember that the Saracens were the intermediaries between the Arabs and Greeks. The latter lent Hindu ideas to Roman Europe as is shown in the writings of Pliny. The fact remains that the works of Charaka, Wagabhatta, and Nighanta furnished in India a well developed science of medicine to posterity. This Hindu science of medicine, embracing a system of diagnosis and materia medica, is now legally recognized and licensed by the British Government. In India registered physicians of the Hindu School practise side by side with those trained in Western methods. Because of this situation, in the future we should expect great contributions from India to chemistry and the use of drugs, to the traffic in which in ancient times Dr. Smith referred. When I took my course in zoology many years ago in one of the American universities, the lectures on the development of ancient thought took us only to Aristotle and Pliny. I wondered then why there was no reference to the Aryan background. Simply, Western scholars were unfamiliar with the early history of the Aryans. Therefore the study of the history of science was like a curtain half raised. The question as to where the Aryans derived their ideas is still unanswered. There is a suspicion that they had a pre-Vedic civilization of their own and of which there is no record. The significant fact is that after all these centuries the Hindu system of medicine is extensively used and, when the old works are studied in the light of modern science, they should bear greatly upon the Western system of medicine.

DR. SMITH (closing the discussion): There is one thing I wish to say in closing, and that is to express my very great appreciation for the interesting discussion that has followed the effort to bring before you something of interest and importance this evening. There are very few points to bring up. I do not need to tell Judge Ommen that the matter of drug substitution is a serious one. If it had not been, I would not have brought it before you to-night.

As a matter of fact, I think the errors in prescriptions are quite apart from the irresponsibility in filling prescriptions, to which I have particularly referred to-night. Many times the irresponsibility arises because we have men who believe themselves to be honest and, judged by the usual standards, are honest. Yet when there is an opportunity for gain, they blind themselves to the fact of their irresponsibility in accepting drugs of which they have no knowledge, and for which they are not able to show a responsible backing.

I am interested in what Dr. Gurjar said about India. There has been quite a conflict between the historians as to whether India was in centuries past, eight thousand years or so ago, the leading spirit that was the beginning of our modern civilizations, or whether it is trying to get on the band-wagon, and I put that reference to India into the paper because I believe there is some reason for thinking that a great deal of our early knowledge came from that source.

The University and Public Health

Universities are not usually considered as public health centers. The public seldom hears of the work done by the University of California in this field through its free clinics maintained by the medical school. Yet a recent report from just one of these clinics shows that during the past ten years almost one thousand people of the state without funds have been treated for eye conditions which would certainly have resulted in blindness were such gratuitous care not available. In addition the lives of several thousand others were made more comfortable by suitable glasses to correct less serious infirmities.

This work is done by the faculty of the medical school, all graduate physicians, many of them with large practices on the outside, who offer their services to the state through the university for this clinical work gratuitously. If the time thus given in the relief of these thousands of people were computed at the extremely low figure of $5 an hour, it would have totaled $75,000.

The university carries on this work both as a service to the state and as a method enabling its students to watch practiced physicians at work. Most of it is done at the main clinic at the university medical school, but some is done in the San Francisco City Hospital, where the university maintains service.

In the city hospital three hundred cases of eye inflammation, due to gonorrhea in the newborn, were treated; at the university there were 105 cases of glaucoma, 10 cases of trachoma, 90 cases of inflammation of the cornea, 110 cases of inflammation of the iris, 325 cataracts removed, and 30 cases of congenital cataract. Quite obviously there is more to a large university than a library of books and an army of students.—*U. C. Clip Sheet.*

Hand Infections

In the treatment of hand injuries certain prevalent mistakes should be emphasized:

Do not suture a traumatized wound without debriding.

Do not incise the hand without the intimate vision gained by using a tourniquet, as clean spaces and sheaths may be opened to infection and nerves and other important structures may be cut.

Do not traumatize the tissues of the hand, as it clogs working parts with cicatrix.

Never be guilty of making the pernicious median longitudinal incision.

Never cut nerves in the fingers and palm, and especially the thenar nerve.

Infection is almost inevitable if tendons are sutured more than twenty-four hours after an injury.

Do not neglect to diagnose exactly an infection in the hand.

Do not treat a sheath or space infection, or a case of lymphangitis, in an office.

Do not use local anæsthesia on infections except just in the line of the incision, as it spreads infection.

Do not make inadequate incisions for infections.

Always keep joints in functionating positions during healing.—*Bunnell, Calif. & W. Med.*, Jan. 1929.

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The Medical Jurisprudence Number

In this issue we follow the course inaugurated last June of publishing a special midyear Medical Jurisprudence number. The three papers appearing herein, and the discussions of them before the Society, cover a wide range and constitute an extremely interesting presentation both from the scientific and human points of view.

Puritanism Vindicated

In the light sentence of a noted educator in matters of sex, for sending so-called obscene matter through the mails, there is to be seen another evidence of the strength of the puritan spirit in this country, for this educator has been true to the tradition of that spirit in that while she has taught all the truths of sex to very young people, any idea of sexual freedom has been sedulously denied to them.

This particular educator goes beyond the conventional limitations of physiology, natural science and morals, and thoroughly discusses the emotional side of sex life. It is Hamlet with the Dane *not* left out. The whole significance of the sexual climax is somewhat thrillingly described, and much else besides concerning erotic love.

But however bright the picture, not a whit of pleasure is to be realized through its means. From the puritan standpoint such teaching is consistent, because always there goes along with it an insistence that the young must "let their sex machinery alone;" it must not be exercised; it must get "strong and ready for its good, happy work when the right time comes;" repression must be sedulously practised.

It is true that this is just the same as telling the boys and girls how candy is made and what it is like, and then insisting that it must not be tasted or eaten—but it is puritanism, and puritanism is a ruling force.

Youth is invited to "try to get it," while at the same time a machine gun is unlimbered. This sort of thing pleases all of the puritan persuasion.

We see the same sort of thing in the matter of alcohol, the pleasures of which have been more extensively advertised than those of any other substance in the history of the world, with curious and adventurous youth warned by John Barleycorn's publicity men, the prohibitionists, not to take it into any sort of account. Puritanism again.

Of course, experience is youth's greatest desire.

Puritanism is the only explanation of the kind of teaching under discussion. Dangle the morsel and wrap the knuckles of those who reach for it.

The work of the court was very effectual in the case in question, when one considers the power brought to bear in behalf of the canons of puritanism, and also considers how great the service is which seeks to provide our youth with a complete chart of the erotic emotions at the same time that it imposes complete prohibition of sexual freedom.

To that minority not of the puritan persuasion it would seem that if we are not prepared to give our very young people a much greater measure of freedom we have no business giving them such a chart.

But complete vindication presumably only awaits the appeal to a court higher in jurisdiction.

Our Temperance Poll

Since the May issue of the MEDICAL TIMES went to press sixty-three additional cards have come in, bringing the total figures for our temperance poll to

Yes	746
No	120
Not voting for various reasons	20
Not delivered	21

The poll excited much friendly interest and a great deal of space was given to it either as news or editorially by the medical and lay press.

The numerical response was up to the standard set by the experience of experts. The educational result has been highly worth while.

In the words of Dr. Thurston Scott Welton, the brilliant editor of *The American Journal of Surgery*, "Public health is purchasable—the price? Temperance!"

War and Disease

It is obvious that there are some striking analogies between war and disease. We think to-day of war as a social infection, due to pathogenic factors of economic and other nature, running a course like a sickness, costing society incredible sums, injuring or destroying incalculable numbers of human beings, and ending in complete or incomplete recovery or death.

We want to get rid of disease but we seem to find war necessary. Just why we should all be "pacifists," so to speak, in the matter of disease, while most of us cling fondly to Mars, seems a pregnant subject for discussion.

It is safe to assume that everybody is in favor of

preventing disease and that the idea of fostering it is thoroughly abhorrent.

If our psychology with respect to disease were the same as it is with respect to war (why should it not be?) a situation of the most interesting character would prevail.

Thus would be witnessed an acceptance of epidemics upon grounds at once plausible and compelling.

What would be the nature of such grounds?

It would be argued that through the effects of epidemics superfluous and otherwise undesirable population groups would be gotten rid of quickly. Such groups exist in one's own country as well as elsewhere, and, just as the military shambles reduce the forces on all sides, so a severe epidemic would effect the same results, only more expeditiously. Occasional pandemics would be desirable.

Very fatal epidemics of disease would reduce economic competition as effectually as war at comparable cost.

The chances of survival of privileged persons in the case of epidemics would be at least as good as in the case of war, as now conducted.

War now leaves vast numbers of crippled and insane, to be cared for at enormous cost over long periods. Epidemics also leave deplorable physical and mental results upon the survivors, if such results are desiderata.

Epidemics bring out human qualities and other results just as admirable as those inspired by war: heroism, care of the injured, scientific progress, devotion to high ideals, nationalistic distinction.

Yet there is no desire stronger in men than to see the last of disease. Whatever the reasons that this should be so, and the attitude toward war contrariwise, we are glad indeed. Here is something upon which one can write with the conviction that one's words will fall upon a sane segment of the race mind.

The story of medicine chronicles this seemingly inconsistent attitude of man throughout the ages and his actual achievements in getting rid of disease or getting it under some sort of control.

Of Death

I was reviewing the original text of Bacon's Essays recently and of course lingered over the second in order with renewed interest, recalling my reaction to it in college days (when we had to translate it into Greek!) as compared with my attitude at three score and ten.

Death will always be our "great adventure," as it has been the burning question of philosophers from Plato to Santayana. We can't get away from it. When we walked daily under the shadow of death in the A. E. F. the fear-complex did not trouble most minds. Often we thought of the brave words of Roosevelt: "The man who is afraid to die is not fit to live." On the other hand, when one reads the epitaph of Marshal Ney on his tomb in Père la Chaise, one recalls his saying: "The man who says that he was never afraid is a liar."

Our profession is in a position to verify all that the ancient and modern writers have said and many of us doubtless sympathize with Cicero's attitude towards the dreamless sleep, but if we read aright the signs of the times we all cherish the immortal hope of a wider experience in a future existence, where "we shall know" even as we are known (the devil can quote Scripture), and the problems that elude us now will be solved satisfactorily.

Meantime old Bacon hit the nail on the head when he concluded his brief essay: "He that dies in an earnest pursuit is like one that is wounded in hot blood; who, for the time, scarce feels the hurt."—H. C. C.

The Great Hope

A large part of the Budget of the United States has been and still is devoted to the costs of war or preparedness against war. To this is now to be added, presumably in ever-increasing amounts, the costs of prohibition administration and enforcement.

To the United States Public Health Service, on the other hand, goes something like a paltry $300,000 for research into the nature and causes of certain diseases of human beings and their control along public health lines. Still less money is devoted to its educational activities.

It is obvious at once that there is something vitally wrong about such a situation, for all the rationalizations that have sought to justify it, but that there is scant chance of remedying it for a long time to come.

How much a peaceful and temperate world would mean to the cause of civilization and particularly to the campaign against disease!

We are bound to believe that relief from the incubi of war and alcoholism will yet bring to mankind very great blessings—almost inconceivable to the relative barbarians of the present day.

Sajous

The late Charles E. de' M. Sajous, while eminent in the fields of laryngology, anatomy, physiology, therapeutics, military medicine, journalism, teaching and authorship, was associated peculiarly with the science of endocrinology. The two volumes on *The Internal Secretions and the Principles of Medicine* (1903-1922), which ran through ten editions, the eight volumes of the *Analytical Cyclopaedia of Practical Medicine* (1898-1925), which achieved ten editions, and the forty-five volumes of the *Annual of the Universal Medical Sciences* (1888-1896) gave this great scholar, pioneer and investigator a unique place in the profession. His editorship of the *New York Medical Journal* (1911-19) marked a distinguished era in that publication's remarkable career. He was decorated by the governments of France and Belgium. Such a life has reflected great glory upon the University of Pennsylvania and other Philadelphia institutions in which he worked and taught, upon the whole country, and upon the man alike. To endocrinology, one might say, his relation was much the same as that of Jacobi to pediatrics. Few men have achieved as much.

"Tonsilitis"

Tonsil comes from the Latin Tonsilla. Many words are made from this base,—tonsillitis, tonsillectomy, tonsillar, tonsillotomy, etc. One wonders why most circulars prepared by chemical houses insist on spelling the words with a single "l", i.e., "tonsilitis", "tonsilectomy", and the like.—M. W. T.

Hunters Given Tularemia Circular with License

An enterprising health officer in the southern part of the state believes in centering his efforts where they will do the most good. He prepared a mimeographed tularemia circular, but instead of distributing it broadcast, gave copies to the license clerk with the request that one be given with each hunter's license issued. We venture the opinion that if any hunter in that district becomes infected with tularemia it will be through sheer carelessness and not through lack of knowledge of how the disease is conveyed.—*Health News.*

Miscellany

Temperance Accomplishment Without Prohibition

There does exist the not unnatural assumption that the case-work of the National Society for the Prevention of Cruelty to Children is largely the outcome of the drinking habits of the parents. The N. S. P. C. C. will have been in existence forty-five years in July next, and, up to January, 1929, its record of work includes the investigation of 1,398,970 cases concerning the well-being of 3,826,930 children.

These figures are unquestionably impressive as indicating the unique experience of this Society in the special purpose it seeks to serve, and have the advantage of giving those in authority a reasonable perspective in deciding the relation of drink as a factor in the causation of offenses under Section 12 of the Children Act. The Society has never sought to disguise the evils which come from excessive alcoholism, which have produced and still result in a proportion of the cases with which its 250 inspectors are called upon to deal in England, Wales, and Ireland. It cannot disguise them—they are indelibly written in its records.

But an examination of the position of drink in its relation to child-suffering makes one fact strikingly clear: that between a period 1911-12 and 1926-27 the change in the habits of the people, the tightening-up of licensing restrictions, the increased cost of drink, and the higher standard of public opinion generally to these matters, have produced not merely a reformation, but a complete transformation to the advantage of the country as a whole.

Pre-war and post-war are dividing-lines which must not be overlooked in considering this question. The early days of the Society's history are undoubtedly associated with cases in nearly all of which drink played a prominent part; indeed, it was frequently the known drunken habits of people that focussed attention upon their conduct and led to reports of child-cruelty and neglect being sent to the Society.

Confirmation of the Society's experience in relation to offences attributable to drink is seen in the judicial statistics published by the Home Office. The quinquennial averages of convictions for drunkenness are worthy of study: 1893-7, 179,496; 1898-1902, 208,266; 1903-7, 219,675; 1908-12, 188,814. The actual number for 1913 was 204,038; it had fallen to 98,606 in 1920, and in 1921 to 81,383. Perhaps the most effective demonstration of this decrease is to be found in the last official publication of criminal statistics (1927), in which it is pointed out that whereas offences connected with drunkenness in 1903 numbered 230,180, by 1925 they had fallen to 80,412, a difference of 149,768. And the decline of drink as a factor in the Society's cases has fallen with proportional steadiness. There was a regrettable increase in 1920, but apart from this the tendency has been a downward one. Out of the 38,174 cases dealt with in 1920-21, 7,640 were directly or indirectly due to habits of intemperance on the part of one or both parents.

But it is possible to examine the position in more detail, owing to the care exercised by the Society in the compilation of its statistics. Looking back to 1911-12, the Society in that year dealt with 156,637 children, and instituted 2,356 prosecutions, a percentage of 4.3 of the 54,118 cases dealt with: in 1927-28 the prosecutions only numbered 596, or a percentage of 1.5 on the 39,774 cases dealt with. The fact stands out very definitely that since 1914, with the one exception alluded to, drink, as a companion to crimes against children, has reared its head less malignantly than in the years which preceded it. No change has been more remarkable than the decline of the bad effects of parental drunkenness on the life and health of the young. In 1914-15 the percentage of cases due to drink was 40.27, in 1915-16 it was 37.83, in 1923-24 it fell to 14.41, and in 1927-28 to 11.28 of the total cases dealt with.

Particularly noticeable in recent years has been the gradual decline of those acute cases of drunkenness in which it became necessary, in the interests of the victims of the drink habit, to secure their admission into state inebriate reformatories. During the six years 1907-8 to 1912-13, no fewer than 192 persons were, at the instance of the Society, so committed, the children concerned in these case being 664. The number has now become negligible, and for the year 1926-27 not a single case had to be dealt with in this way.

This is not the occasion to recite cases which are the outcome of drink; but there is consolation in the knowledge that in fighting cruelty and neglect the Society, through its extensive and unceasing propaganda, its humane solution of social problems, and its sympathy and help, is often the means of turning drunken people into sober people. With an income of £5 a week a widow, frequently drunk, was prosecuted and sent to prison for the neglect of her three children. When she came out of prison her first visit was to the Inspector, to whom she said: "I have taken the earliest opportunity of coming to shake hands with you. I thank you from the bottom of my heart for what you have done for me. I will never touch drink again, and I am most grateful you have kept my home together in my absence. I thank you for this opportnity to win back."

Although there is much satisfaction in the lowering of the percentage, drink remains a factor in the Society's cases, an unfortunate factor which is definitely concerned with the happiness, the health, and the future of our children. That 11.28 of the total cases dealt with last year, involving thousands of children, had to be placed in the category of drink, should awaken national anxiety, and call for still further education of public opinion against the evil effects of intemperance.—William J. Elliott, Director of the National Society for the Prevention of Cruelty to Children, in *The British Journal of Inebriety*.

Deaths From Alcohol Show Increase In 1929

The death rate from acute and chronic alcoholism, exclusive of deaths due to poisoning by wood and denatured alcohol, rose from 3.2 per 100,000 in 1928 to 3.8 for the first quarter of the current year. This increase was noted among more than 18,500,000 industrial policy holders of the Metropolitan Life Insurance Company. During the quarter there were 175 deaths from this cause among this class, against 144 during the same period last year.

After the alcoholism death-rate reached its maximum in 1920, the first year of national prohibition, there was a steady upward tendency up to and including 1926. Slight declines followed in 1927 and 1928, and it was hoped they would continue, but except for 1926, the present year has, for its first quarter, the highest recorded death rate since 1917.

Among the 175 deaths recorded this year, only four occurred among Canadian policy holders of the company. Since Jan. 1, 1922, there have been 3,672 deaths from alcoholism among the industrial policy holders of the company. Among the more than 17,250,000 lives exposed to risk in the United States, deaths from this cause have totaled 3,629, while among about 1,200,000 Canadian policy holders there have been only forty-one deaths.—*New York Times*.

The Physician's Library

Angina Pectoris. By Harlow Brooks, M.D., Emeritus Professor of Clinical Medicine, New York University, etc. Pp. 164. Harper and Bros.

Although the well-known author of this fascinating little book modestly disclaims originality, calling attention to the fact that Heberden in 1768 was the first to describe accurately this symptom-complex, we are disposed to believe that so far as regards its treatment he has thrown fresh light upon it.

It is high time that the profession and boards of health should cease to regard angina pectoris as a disease *per se* and should know that each case must be studied and treated intelligently. As to most of the laity, the diagnosis of angina is tantamount to a death sentence", we read in the preface, and the negation of this opinion is the key-note of the monograph. Based on the author's wide clinical experience and ripe judgment, which have made him so valuable as a consultant, we may accept his statement as ex cathedra.

It is impossible within the brief space allowed to do more than indicate the salient points of this little volume, which certainly will outlive many a ponderous medical tome. It fairly bristles with pages that stick in the memory, as in Chapter II in general description.

In Chapter III, on symptoms, a vivid picture is drawn, the truth of which will be attested by every practising physician. Chapters V and VI on pathology, deserve careful study, stress being laid on the three cardiac factors—disease or spasm of the aronary arteries, aortitis and myocarditis.

The chapter on pseudo angina, so important to both diagnostician and patient, and the next chapter on the toxic form (VIII) are filled with wise suggestions, and replete with common sense.

Chapter XI, on prophylactic treatment, is a monograph in itself. We note that the subject of intemperate sexual indulgence in middle age as an important factor is discussed briefly, but boldly, on page 106. Chapters XII-XIV (including a little over forty pages) contain the gist of the matter. Here at least the author may claim originality.

Under "specific treatment", we call attention to the stress laid on rest, sleep, physical and psychic treatment, etc. "With proper handling," we read, "many patients may live out long, useful and often happy, lives despite their handicaps." This idea is developed further in the chapter on general treatment (XIII), in which the important questions of food stimulants, sexual hygiene and changing climate are discussed most carefully. Contrary to the common opinion, we note with approval on page 122 the statement that "there is no doubt as to the desirable euphoristic effects of the alcoholics in suitable persons." Nor is the moderate use of tobacco, tea and coffee interdicted absolutely in proper subjects, which would deprive so many of the minor pleasures of life. "Each individual case of angina is a problem in itself." Chapter XIV, on the treatment of the attack, will appeal especially to the general practitioner, who is called in so often in this emergency perhaps to relieve a patient whom he sees for the first time.

The nitrites are of great value and the author never has seen any dangerous effects produced by their use in attacks of angina pectoris. "Morphine by all odds is incomparably the most certain drug for the relief of the attack." A hypodermic injection of gr. ¼ often aborts it, though in coronary thrombosis it may be necessary to repeat it several times. Alcohol frequently gives great relief. Chloroform has given relief in the author's hands, when morphine failed. Surgical treatment (Chapter XV) he regards "as a palliative measure only." The brief concluding chapter on prognosis is summed up in the last paragraph: "Primarily * * * it is determined in greated part by the character of the cardiac lesion which is productive of the syndrome."

It would be superfluous to dwell upon the charming style, pure English and accurate proofreading of this little book, so characteristic of the author; in fact it reflects throughout the "human" element which makes him so loved by profession and laity alike. There is only one Harlow Brooks, a real benefactor in this age of self-interest.—H. C. C.

Treatment of Diabetes Mellitus. By Joslin. Lea and Febiger, Philadelphia. 1928. Pp. 998. Price, $9.00.

This is the fourth edition of Joslin's book,—as much a standard as Gray's Anatomy. In this new edition Joslin gives the changing point of view toward diabetics. His statistics from his extensive practice are given. The section on diabetes in children covers about fifty pages. The methods of prevention and treatment of coma are dealt with extensively. Summaries are given in certain parts of the book which help the reader. Joslin's personality is seen throughout the book and it is always a pleasure to read his works.

When Love Passed By and Other Verses. By Solomon Solis-Cohen. The Rosenbach Company, Philadelphia and New York. Pp. 104. 1929.

This volume of verse by the noted Philadelphia savant presents an interesting phase of a life distinguished for versatility in the arts as well as in medical science. For as a painter Professor Solis-Cohen has also made his mark, as will be recalled by those who have seen his charming creations at the New York Academy of Medicine's art exhibitions and elsewhere.

The verses published in this little volume run back in time of production to the seventies, while the most recent is dated 1928—a moving invocation To God, the Great, the Adored, translated from the works of a medieval poet. So it is evident that Professor Solis-Cohen has never ceased to worship at this particular shrine.

We of the era of Volstead and his ilk can but dwell pensively upon the urbane culture of the medievalists, like the one rendered by Professor Solis-Cohen in this fashion:

A year with God is nothing—so they say—
A thousand years with him are but a day;
Would I might linger with the winecup here,
Until it seemed to God about a year.

Or like the one rendered in the following style:

"If 'stead of brine, the waves were wine, of vintage fine," quoth he,
"I'd wish to be a Jonah's fish, a swimming in the sea;
None other Eden would I ask, to all eternity—
But for our sins, God made the sea of water!"

For all ages, however, it can be said:

Godlike, the doctor, when his aid is sought—
Archangel, when the cure is partly wrought;
The cure complete, a man like you and me—
The very Devil when he asks his fee.

But these are but deft touches upon a canvas which portrays many phases of life—love, patriotism, immortality, vanity, freedom, religion.

Diagnostic Methods and Interpretations in Internal Medicine. By Samuel A. Loewenberg, M.D., F.A.C.P., Assistant Professor of Clinical Medicine, Jefferson Medical College, etc. Pp. 1032, including index; 547 illustrations, some in colors. F. A. Davis Co., Philadelphia. 1929. Price, $10 net.

This exhaustive, well-arranged, and lucidly written work places the profession under great obligations to the author. An immense field is sucessfully covered for student, specialist, and general practitioner alike. Its keynote is "the person affected by an illness", rather than "the illness affeting a person". It is well that a master has produced such an integration and interpretation of diagnostic methods with complete justice to all types of medical readers and patients, for to-day there is an unfortunate prevalence of extreme specialism on the one hand and the "jack of all trades and master of none" business on the other, when the need is for an understanding of fhe organism as a whole such as every practitioner should possess. Accurate diagnosis is fundamental and is the source whence all else flows. The author has ruthlessly discarded every thing that has not stood the test of experience or which hampers the acquisition of the new knowledge in his field. The reviewer heartily recommends this work to every practitioner.

The Struggle for Health. By Richard H. Hoffman, M.D. New York: Horace Liveright. 1929. Price, $3.50.

It is a vast canvas which Dr. Hoffmann—a New York practitioner, by the way—engagingly paints for us. While this book is addressed to the lay public, it contains a lot of meat for the medical reader, too. There is much merit in the biographic sketches in which the book abounds, written as they are in ultra-modern fashion, which is, candidly, a great relief from the time-honored style. It is a romantic, fascinating epic, this struggle for health which Dr. Hoffmann cleverly recounts from the dawn-man to Freud. Despite the vast mass of data concerning disease which the author handles, it is well coordinated and the reader's interest is never permitted to flag. The book is suitably illustrated and indexed.

Obstetrics and Gynecology. The Practical Medicine Series, 1928. Edited by Drs. De Lee, Greenhill and Polak. Price, $2.50.

Thoroughly up to date in every way; the editors' discussion of the original articles gives a personal touch which is extremely interesting. It gives the general practitioner an opportunity to get the latest developments at small cost.

Dermatology and Urology. The Practical Medicine Series, Edited by Drs. Pusey, Senear, Wein and Cunningham. The Year Book Publishers, Chicago. Pp. 420. Price, $2.25.

Up to the usual standard of this series. The editors do not discuss their subjects quite as freely as in some of the other volumes. However, this volume is highly recommended.